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Developments in Child Psychiatry in the United States*

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CHILD psychiatry is a development within the field of general psychiatry that has taken place in the last quarter century. As the science of understanding human behavior shifted from the laboratory to a study of, and interest in, the living person, it was inevitable that interest should focus on the childhood period and the influences shaping the early personality of the child. Out of this growing need to understand the child from his own experiences, rather than from the retrospective accounts of adults, emerged a clinical field patterned to deal with the unique characteristics of the period in question.

Early emphasis in the clinical programs established to give reality to this new field was on the prevention of adult maladjustments. The objective of the first clinics established in the history-making program sponsored by the Commonwealth Fund, was described as a program for the prevention of delinquency. Dynamic psychiatry pointed to the importance of the childhood period, and adult disorders were traced back to traumatic influences operating in family and community which warped the child's early life. The earliest clinical efforts had a strong educational flavor and were aimed at educating parents to prevent disturbing influences affecting the lives of their children.

These were important objectives, and from this early period emerged a better understanding of the laws of psychological growth. Equally important was the emergence of a better understanding of how parents and children changed and how professional services could be developed to accelerate this process. It became clear that parents and children sought and needed help, not to prevent some later difficulty, but because of current anxieties and problems. These were the problems that were brought to the clinics and they required special therapeutic effort. While prevention remained as a general objective, it receded as one immediately attainable. The problems of children required skillful attention for what they were—then and there. New professional skills were called for, to help the parents and chil-

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dren who sought the services of psychiatric clinics. They needed more than good advice and well intentioned prescriptions which pointed out their weaknesses and the way to correct them. It became increasingly clear that they needed help to attain a better understanding of themselves and to arrive at a healthier set of values about themselves and their capacity for responsible living.

The clinical methods that have emerged in the quarter-century in which child psychiatry has flourished have been fashioned by the parents and children who have used the professional services of the psychiatrists, psychiatric social workers, and psychologists who have staffed these clinics. This is too important ever to be forgotten. Professional method has been carved by understanding how parents and children have effected changes in their relationship together, through and with the skillful direction provided by trained professional staffs. By seeking and using such services, parents and children have contributed vital quality both in theory and in clinical practice—child psychiatry has not developed in a vacuum of applied theory.

Another highly important aspect of this professional field concerns our changed conception of the child himself. In early clinical efforts, the child was examined and tested mainly to gain information about him, rather than to help him directly with his own emotional problems. The child was seen as a victim of conditions and not as a participant in them. He was studied more as a product than a dynamic factor in his own growth. There have been great changes in our conception of the child, and these changes have had a profound influence on clinical methods. He is an active participant in the helping process designed to bring about a better adjustment. Even quite young children are included in the therapeutic services available in our present-day clinics. No longer are they regarded just as automatons, reflecting unhealthy attitudes of others and incapable of change except as conditions under which they live are changed.

The inclusion of children in the therapeutic program has had profound effects on the nature and quality of the parents' participation in that program. The parents are respected for the part they must take in a clinical service if the child is to be helped. Concurrent interviews with parent and child focus the therapeutic process upon the relationship between parent and child, in which the whole problem is rooted. The characteristics of the childhood period require that this relationship be kept in the foreground in the therapeutic procedures designed to help the child.

Many of our child guidance clinics have learned, out of their experience, the importance of an initial planning period with one or both parents before the child is started on a therapeutic experience. The parent makes the first move to get help and in that first step learns what a clinic service is and how it operates, while sharing with a staff social worker the nature of the problem for which help is sought. In this first move, the parents can bring out the degree of their concern about their child and the part they can take in helping him. Then they have a chance to think it over. If one parent makes this first move, the other parent can be included in the steps they must plan together. The child will need to be told why they are seeking help for him, a step which may be a difficult one for the parents to take, particularly those who are very protective of their child and wish to save him from the anxiety that will be aroused when they tell him they are worried and are taking him to a clinic for help. In some clinics that have given a great deal of thought to this phase of therapy, a second planning

interview is arranged with the social worker who will be the one to go on with the parent. The time given to this has proved of great value for those parents who elect to make the fullest use of the clinic. In the long run, this slower intake process pays rich dividends, not only in helping parents to be together in their common concern, but also in furthering a new sense of value in regard to parental responsibilities. The fact that a clinic recognizes their importance in planning this service for their child, has real significance both for the parents and for the child.

The change toward healthier living needs to come from both child and parent. The burdensome responsibility placed on the parents becomes more realistic when they can be helped to understand that a child has capacity for responsibility, not only as a factor in a problem but as having an important part to play in its solution.

The basic feature of the child guidance clinic is the pooling of the professional skills of the psychiatrist, psychiatric social worker, and psychologist to provide a clinic service in which joint participation of parent and child is made possible. When parents seek the help of this type of clinic, they are helped to realize that it is not just bringing a troubled child to a psychiatrist to be made over and cured. They bring, as well, their own concern and anxiety about their relation to that child who is experiencing difficulties. The problem involves a vital relationship between parent and child. It is neither projected entirely on the child's behavior, nor on what the parents' influence has been in aggravating that problem. Important dynamic forces emerge in the move taken by the parent to seek help—when the clinic service provides both parent and child with the opportunity to participate in finding a healthier balance in their living together.

The collaboration between the professional groups needed to build this service for children has been effectively developed in the child guidance clinic. The nature of the childhood period and the problems arising in it have required refinement. Practice varies in different clinics as to the most effective ways of utilizing the different skills of the psychiatrist and the social worker. My own experience has been in a clinic that has developed a clear differentiation between the psychiatrist's therapeutic role with the child and the role of the social case worker in his work with the parent. A parent who seeks the help of a children's clinic, by this choice elects to work on his parental relation to the child rather than on his own adult problems. Many parents who need help with their children do present neurotic problems in themselves. But the child guidance clinic must focus on the parent-child relationship and not get swept into the broader areas of the adult problem. By keeping the child in the central position in the clinic service, the adult as the parent to the child, can also be kept in focus in the help they need and receive. Using the psychiatrist with the central person—the child—and using the social worker's skill in working with the parent, helps to keep the function of the clinic in proper perspective.

Other clinics have developed a different procedure in which the roles of the psychiatrist and social worker vary according to the revealed needs of the parent or of the child. The more disturbed parent may be seen by the psychiatrist and the child by the social worker. It is generally agreed, however, that the social workers who carry such therapeutic responsibility with the child will need special training beyond that received in their basic case work training.

The demand for clinical services for disturbed children is increasing rapidly throughout the United States. The psychiatric clinic for children has become

an established and recognized resource needed by communities, both urban and rural. The structure and setting of these clinics varies and depends upon the relation they bear to other health, social, or educational resources in a community. The most frequent pattern is the child guidance clinic established as an autonomous clinical unit in a community, and having its own staff and administrative structure headed up in a board of directors. The services of such a clinic operate in close relation to schools, courts, health and social agencies, but with an intake policy that allows the clinic freedom in the selection of cases. For example, a court may refer a parent and the clinic would help that parent to assume responsibility for working out a way of using the clinic in accordance with his own need.

Clinics which limit their intake to children up to a certain age, e.g., 16 or 17, usually flourish in our urban communities and, in most instances, in the larger population areas. Other psychiatric clinics for children have developed in different settings to meet a more special need than those established as community clinics. Many public school systems have felt the need of more psychiatric help in strengthening their services relating to the problems of school children. A great many emotional problems grow out of the child's school experience. The schools must deal with these problems, irrespective of the concern a parent may have about the child. Some of our school systems have developed skillful counselling services and could make effective use of trained psychiatrists to strengthen their efforts to effect a better adjustment of the school child.

Some school systems, notably the New York public school system, have developed an extensive child guidance program within the school system. This program more nearly parallels the structure of a community clinic, and provides an extensive therapeutic service for the referred children. Clinical teams work in different sections of the city and serve the public schools in their particular districts.

The public school psychiatric clinic has a strategic opportunity to help the classroom teachers to gain a broader understanding of their influence on the emotional development of the child. Helping them to become better teachers and to acquire more skill in dealing with the emotionally disturbed child in the classroom, is an important mental hygiene objective. Skillful counselling by trained people who include the teacher in their work, also achieves results in making for a healthier classroom atmosphere for all the children and especially for those having difficulty in adjusting to the school experience.

Development of counselling services in our public schools has been an effective way of strengthening school resources for dealing with a variety of emotional and behavior problems growing out of school life. A good example of this development can be found in the Philadelphia public schools where the personnel of this counselling service have been drawn from qualified teachers who have indicated interest and ability in this school service, and who are then given in-service training. One valuable feature of this program is locating the counsellor right in the school. He is as much a part of the school program as the principal and classroom teacher. These counsellors, in addition to carrying an important service helpful for both the school and the child, provide an important connecting link with essential community resources such as a child guidance clinic. They are in a position to help parents to take their children to the clinic. They provide a necessary channel for effective collaboration between school and clinic in their efforts to help the child to a better adjustment.

There are many who believe that the

child guidance clinic should be developed as an organic part of the school system. One assumption behind this belief is that such a clinic would be more accessible to parents and children and that they would be freer to use such a service than one set up as an independent entity. My own belief, which is shared by many experienced people, is that there is need for both types of service in our large urban centers. The school clinic is needed to strengthen the school in understanding the wide variety of problems growing out of school experience, and operates in close relation to the classroom teacher, the school administrator, and the medical and counselling services. The community clinic, unhampered by the natural authoritative influence of the school, is in position to help parents and children to use the service out of their own concern and need.

One of the most important developments in recent years is growing out of a closer relation between pediatrics and child psychiatry. The pediatrician is in the most strategic position to understand and help the parent and child in the early stages of the child's life. This opportunity grows naturally out of the normal function of the pediatrician who provides a significant psychiatric service without having to be a psychiatrist. His understanding of the fundamentals of the psychological growth process enables him to be extraordinarily helpful in dealing with many of the early anxiety problems of parent and child.

Pediatricians need to have this knowledge incorporated into their training. They need this type of training more than they need special psychiatric clinics in pediatric hospitals. The work being done in the Pediatric Clinic at Cornell is an excellent example of what is needed in every pediatric center, particularly in teaching centers. In this clinic an excellent pediatrician with sound psychiatric training has woven into the clinic and hospital work and into teaching, his knowledge of what is important for the pediatrician if he is to be a real practitioner in his field.

There is a great need to train more pediatricians in the basic principles and practices of child psychiatry to enable them to assume teaching responsibilities in our medical schools and teaching hospitals. Here is the opportunity for real and positive preventive work. Frequently we hear the demand for more psychiatrists in well baby clinics, but it is my firm belief that a child psychiatrist has no valid place in such a clinic. This is a function belonging to the well trained pediatrician who has a natural opportunity to function effectively in helping parents to achieve a normal relation to their children. Placing psychiatrists in such clinics only serves to relieve the pediatrician of his true responsibility and, in the end, blocks normal progress in such services. Psychiatrists, well trained in child psychiatry, can serve a more important function in helping to train pediatricians to fulfil their natural roles, which require so much more than treating sick children.

Every child guidance clinic deals with some children who are so disturbed that they require special residential care. Providing such facilities with a well trained staff is expensive and can only be done under adequate subsidies. Some progress has been made in developing such facilities and a great deal is being learned about how to make such care effective. A good example of a carefully thought-out program combining good residential care with therapeutic work, is found in the Children's Service Center of Wyoming Valley, at Wilkes-Barre, Pa., which can provide residential care for about sixteen children. One important feature of this program is intake policy which requires a thoughtful planning with the family

for this care. It is important to maintain a working relation with the family in order that the child's gains are not achieved in isolation but in some relation to the family to which he will return. This thoughtful planning becomes a requirement for admission, even when parents live at some distance. This is a feature of residential care that needs to be refined, in all institutions whose primary function is to help the seriously disturbed child.

Other excellent examples of residential care for the disturbed child have developed in the Southard School in Topeka, Kan., at the Orthogenic School in Chicago, and at the Langley-Porter Clinic in San Francisco. The last is located in special quarters in a psychiatric hospital, while the Southard School is a separate part of the Menninger Clinic. All of these clinics provide psychotherapeutic service for the child and are important training centers for professional personnel.

The question frequently arises as to whether such residential facilities should be developed in our adult mental hospitals. My own conviction is that they should not. If they are developed there, it is essential that the quarters should be separate and that specially trained staffs be provided. The latter is difficult to provide because of the lack of opportunity to train adequately those who are charged with the responsibility of operating this service.

A somewhat different clinical service combining skillful therapeutic help with a nursery and kindergarten program is exemplified in The Children's Center of Roxbury, Mass. This clinic provides a group program for disturbed children up to the age of 6 years. The individual therapy is skillfully interwoven into the group program, and enables this clinic to work with many disturbed children who otherwise would require 24 hour care away from home. The parents take an active part in this service, being a part of the group program and also having the opportunity to participate in the therapy by being helped to work through their own problems as parents. This type of clinic will have an important place in future developments and provides a pattern that could be utilized in our large urban clinics.

Other clinics have been developed to meet the special problems of our juvenile courts. This is a service needed by the court to help toward a better understanding of the problems it must handle. Such clinical services have been mainly diagnostic, and therapeutic only to the extent that the knowledge so gained is used to make disposition and probation more intelligent and effective. Having such a service in our courts does not diminish the need to have good therapeutic services available in the community. In fact, the need for such a clinic usually is increased since the presence of such a clinic enables the court to refer those parents and children who are ready to use services which cannot be provided by a court.

The greatest barrier in expanding psychiatric resources for children is the scarcity of adequately trained personnel. Today a great many communities are ready to develop child guidance clinics and are unable to proceed because of their inability to obtain qualified staff. Significant moves have been made during the past year to correct this serious situation. The most important step to broaden and improve professional training was taken by the federal government when the National Mental Health Act was passed. This Act empowers the U. S. Public Health Service to provide grants-in-aid to recognized and competent training centers to enable them to train more psychiatrists, psychiatric social workers, psychologists, and psychiatric nurses. These are the professional groups needed in developing the country's resources to

deal with mental health problems. In this program, child psychiatry is recognized as one of the important clinical fields to be developed through providing more trained personnel. The three professional groups needed in our psychiatric clinics for children are the psychiatrists, psychiatric social workers, and psychologists.

In addition to the grants-in-aid to qualified training centers, this Act provides for stipends for the students who are qualified to enter a training program in child psychiatry. Psychiatrists are required to have two years in basic psychiatry in a recognized training hospital or clinic before they are eligible to begin this specialized training for child psychiatry. This requirement is a recognition of the fact that child psychiatry is an integral and important part of general psychiatry. But this program also recognizes that training in adult psychiatry does not develop the special professional competence needed in psychotherapeutic work with the emotionally disturbed child.

A third important feature of the National Mental Health Act aims to develop more clinical facilities both for adults and children. To achieve this end, funds are made available to the various states on a matching basis. Each state is required to designate a central state agency administratively responsible for the mental health program, and requires that this agency draw up a program for expanding outpatient clinical facilities. When these programs are approved by the Surgeon General of the U. S. Public Health Service, allocations are made on matching formulae which have been developed.

This program will allow considerable expansion of clinical facilities for children, particularly in communities that have been unable to support a children's clinic. A large proportion of these new clinics will probably provide a clinical service for both adults and children. The real barrier to the rapid expansion made possible by these federal funds, is the acute shortage of trained personnel in all professional groups, but especially in psychiatry. There is a real danger in this situation because of the temptation to start clinical services for children with personnel who have no qualifications for developing a valid and helpful clinical service for children. On the other hand, there is no prospect in the near future of meeting all these demands with well trained professional people. The present qualified training clinics are few in number and are needed to give the more refined training to meet the need for more teachers capable of assuming training responsibilities.

It is clear that training our professional personnel must be carried on at two levels. Our best training resources, found mainly in the larger communities in the well established psychiatric clinics for children, must be used to train well qualified child psychiatrists. This training program should cover a period of two years. But there is a larger number of psychiatrists who will head up the all-purpose clinics who will need and could effectively use a less intensive type of training. Here again we run into the unanswered question of how and where to provide this training.

The American Board of Psychiatry and Neurology has indicated the desirability of all psychiatrists having 6 months of training in children's work. There is considerable justification for this, but how the end is to be attained is a serious question.

In our efforts to find adequate answers to these problems of personnel, one fact must be kept in the foreground. Standards must be set up and maintained in our training programs, capable of turning out well qualified professional personnel. If these limited re-

sources are used for the more expedient type of training, to enable more communities to use federal funds, there would be a real danger of pulling all training down to this level and blocking the essential development of this professional field. Too many clinics have been started to offer help to a troubled parent and child and end up by offering very little real professional help. Parents and children needing skillful help have a right to expect good service, and the professional field suffers when it is not provided. Too many clinics started with a low level of professional competence have remained at the level at which they started, and have the effect of lowering the professional status of this clinical field.

Another important development in this field occurred with the forming of the Association of Psychiatric Clinics for Children. This Association grew out of the clinical field itself and represented a need to establish standards and assist established clinics and those being started, to maintain standards of service which the accumulated experience of our clinics indicates as essential. At the present time this Association has 39 active members and 7 associate members. This is an association of clinics and not of individuals, and membership is limited to those clinics which have trained staffs of psychiatrists, psychiatric social workers, and psychologists. Part-time clinics employing competent staffs have been included as associate members, while the clinics with a full-time staff are eligible for active membership.

This Association will play an influential role in maintaining standards for professional training and has, as one of its important functions, the evaluation of the training programs of clinics which are doing training and of those clinics asking for approval as training centers. The Association is in a strategic position to strengthen the training resources of the United States and will be in a position to help those administering the National Mental Health program to select clinics that should be subsidized in order to broaden their training programs.

In 1922, when the Commonwealth Fund started its program to develop child guidance clinics, they turned over to the National Committee for Mental Hygiene the responsibility of providing professional leadership to this whole program. The Division of Community Clinics was established with competent leadership. The Association of Psychiatric Clinics for Children was the natural outgrowth of this work, and today the National Committee for Mental Hygiene provides the field work service for the Association. The Executive Assistant for the Association is on the staff of the National Committee.

The selection of qualified candidates for training in approved training centers is an important job. The final selection of the candidates must be left to the training center in which the fellow will receive his training. But the preliminary screening of the considerable number of psychiatrists desiring this training is being carried on by the Association and its Committee on Training. This is a big job that needs to be centralized. Candidates ready for assignment can be informed of available training resources and be given the opportunity to apply to the clinic of their own choice. This clears the way for the clinic and the student to work through a selection process that is satisfactory to both clinic and student. For students receiving National Mental Health Act stipends, the clinic must nominate the candidate and send these nominations to the Surgeon General of the Public Health Service for final action.

The future of this all-important field is one full of promise. The fact that there is a rapidly increasing demand for serv-

ice in every one of the established clinics, is an indication of the growing confidence that is emerging in our communities in their value. They have provided important clinical laboratories for the development and refinement of clinical method by which parents and children have been helped to a healthier way of living together. In these clinics, psychiatrists, social workers, and psychologists have learned how to pool their separate professional skills to build a clinic service that can be effectively used by parents and children. The nature of the childhood period requires this professional collaboration and our clinics for children have made effective use of this opportunity. Today, we find increasing emphasis on the need of the psychiatric team in all phases of a mental health program in our hospitals, adult clinics, and in our military service. The work done in our child guidance clinics is, in a large measure, responsible for this refinement.

Advances in better understanding and application of psychotherapeutic principles have come from the work of these clinics for children. These principles are based on the respect for what a parent and child can do in effecting the changes necessary for healthier living. Psychotherapy must rest on this positive approach to human behavior which seeks to strengthen capacity for responsibility. Building on what parents and children have, rather than stressing their liabilities and mistakes, has been an approach that has been basic in working with parents and children. By their participation in a clinic service provided by trained clinic staff, they have built a clinical method that, today, is effective in restoring a great many parents and children to a healthier balance in their living together.

Yale Expands Cancer Control Training

A training program for cancer control officers will begin at Yale's Department of Public Health through a grant from the National Cancer Institute.

Developed to meet the needs of administrators of cancer programs, statistical epidemiologists, health educators, and public health nurses, the program will require at least one year. It will include basic courses in the principles of social science, public health, and medical care organizations as well as specialized cancer control instruction. With the rank of Associate Professor, Edward M. Cohart, M.D., Regional Cancer Consultant, U. S. Public Health Service, will head the program.

Physicians with at least two years' practice or comparable experience, nurses and others with the Bachelor's degree and with three years' experience in medical care, dental care, or public health work are eligible for the training leading to the Master's or Doctor's degree in Public Health. Special students, not candidates for degrees, with appropriate training and experience may also be admitted. Apply Dr. E. M. Cohart, Cancer Control Section, Department of Public Health, Yale University, School of Medicine, 310 Cedar Street, New Haven 11, Conn.

Newly Proposed Staining Formulas for the Direct Microscopic Examination of Milk*

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A PROCEDURE most satisfactory for staining milk films should make possible the counting of a maximal number of bacteria present in a given volume of the milk. In a previous publication reporting comparative studies of well known milk staining procedures, we pointed out that they all failed to yield such maximal bacterial counts consistently,[1] and emphasized the factors responsible for such failures. Based on the studies then reported, we expressed the belief that improved procedures for staining milk films could be developed. It is our further belief that only by following certain known and appropriate physicochemical principles can further progress be attained in the development of a procedure most satisfactory for staining milk films.

ADSORPTION IN STAINING MILK FILMS

In the investigations reported upon in the present paper, we assumed that the process of staining milk films generally follows the principles underlying the phenomenon of adsorption.[2, 3] For the purpose of our investigations, we define adsorption as the physicochemical phenomenon consisting in the concentration or adhesion of the molecules of the dissolved methylene blue dye, in their dissociated or undissociated state, at the surfaces of the solid bodies with which they are in contact, that is, at the surfaces of the milk proteins and of the various organized cells which have been fixed to the glass slide. The phenomenon of adsorption is characterized by certain generally accepted manifestations. Those which have a bearing upon our investigation are:

1. The substance adsorbed can be eluted and thereby regained in its original state. It is upon this property of the adsorbed dye that complete destaining of milk films depends. The eluted dye, if allowed to concentrate sufficiently, will stain milk films in the same manner as it did originally, thereby indicating that the dye has been regained in its original state.

2. In solutions of the same substance in different solvents, the greatest adsorption occurs in that solution whose solvent possesses the highest surface tension. Water has a surface tension of 72.75 dynes per centimeter at 20° C., which is the highest tension of all other solvents used in connection with the methylene blue dye as applied to staining milk films. This explains the observation recorded by us in a previous publication,[1] namely, that aqueous solutions of methylene blue readily give up the dye to the milk proteins of the

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background, and cause frequent overstaining.

3. The amount of adsorption is conditioned by the extent and the nature of the surface exposed. It is reasonable to assume that with the difference in the size of bacteria, their species and ages, adsorption of the methylene blue dye at their surfaces, that is, the intensity with which they stain, should differ from only slightly darker than the intensity of the background to very dark blue. It is because of this principle of adsorption that we emphasize in the preceding paper[1] that strong staining contrasts are attained at the expense of the delicacy in color shades, which in turn results in the loss of visibility of numerous bacteria whose adsorptive power for the dye is only slightly greater than that of the milk proteins forming the background of the film. To this must be added the fact that the adsorptive power of the surface of many bacteria may be considerably influenced or completely masked by the layer of milk proteins covering them.

4. The adsorption concentration is also conditioned by the pressure or concentration of the adsorbate. Had this not been true in the case of methylene blue dye as a staining medium, that is, had the reaction been a true stoichiometric one, a definite maximum of the reaction would always be obtained, and no overstaining would take place, since the excess of uncombined dye molecules could be easily and completely removed by rinsing and washing, without any destaining effects.

5. At lower temperatures, the speed of migration of the molecules of the material in solution toward the adsorbing surfaces of the suspended solids is slowed up, but the ultimate concentration is higher. We found this to be true of methylene blue solutions in relation to suspended milk smears. Staining procedures were carried out at 20° C. and 4.5° C., and the results compared. We found that in the cold staining, a higher degree of differential staining could be attained. If the slides were removed at just the proper time and rinsed, the milk proteins, not having attained the maximum dye concentration, remained somewhat lighter, while the organized cells stained darker than they did at 20° C. This is a point of interest which presents possibilities for further studies in milk film staining with methylene blue.

6. The ionization or non-ionization, or the degree of ionization of the dissolved dye, depending upon the nature of the adsorbing substance, determines the polarity or non-polarity of the reaction. While it is generally believed that in both polar and non-polar adsorption the exponential law expressed by the adsorption isotherm is valid, the original electrical balance of the dye solution may be affected. Methylene blue hydrochloride is strongly ionized in aqueous solution, and since, in the case of milk films, the insoluble adsorbents, represented by the milk proteins and organized cells fixed to the slide, adsorb only the cations of the dye, the chlorides tend to remain in the solution. The electrical balance of the original dye solution is thereby altered. This poses the question as to how long the same dye solution can be used and still be expected to produce the same results as the original solution. This theoretical consideration also points to the undesirability of mixing used and unused staining solutions. In this connection we found in our investigations that frequent changing to new dye solutions is desirable. This is especially true of dye solutions of comparatively low concentrations.

ACID AND WATER-FREE METHYLENE BLUE SOLUTION

From our previous studies[1] and the theoretical discussion presented in the preceding paragraphs, it appears that

the search for a satisfactory staining solution for milk films should be limited to simple solution systems, that is, solutions containing the minimum of chemical reagents, and that the solvent for the methylene blue dye should have a comparatively low surface tension in order that differential staining effects as regards intensity of staining may be best attained. This would at once exclude aqueous solutions of the dye, and dye solutions which contain high concentrations of acids and other chemicals. Ethyl alcohol as used in laboratories contains only 5 per cent of water, at 20° C., generally regarded as room temperature, its surface tension is only 22.3 dynes per cm., compared with 72.75 dynes for water. It was felt, therefore, that the solution to the problem might be found in the use of ethyl alcohol as the only dye solvent.

Accordingly, concentrations of the dye in alcohol, varying from 1.2 per cent down to 0.1 per cent were used for the staining of milk films. We found that a 0.6 per cent concentration of the dye in alcohol gave the best results. A number of milk films were defatted and stained for one minute. Under the microscope the milk proteins appeared evenly and only moderately intensely stained. The leucocytes stood out clearly and the bacteria adsorbed the blue dye in varying degrees. The tendency to overstaining did not manifest itself, and it seemed that such a dye solution presented a promising basis for the development of a staining process which would make visible and countable a maximal number of bacteria and other cells present in the milk.

The procedure consists of the following simple steps: The milk films were prepared and dried *thoroughly*. Films were next defatted as usual. Again, after *thorough* drying, films were submerged into an alcoholic solution of 0.6 per cent of methylene blue for one minute. They were then lightly rinsed in tap water, *thoroughly* air-dried, and examined under the microscope. Comparative counts indicated that such a staining procedure yielded counts considerably higher than any of the staining procedures previously investigated.

To meet the need for a single-dip process, we tried to mix the alcohol with equal volumes of different well known defatting agents, such as xylene, ethyl ether, chloroform, and tetrachlorethane. We found xylene unsuitable because of its tendency to precipitate, to some extent, the methylene blue dye. Ether was given serious consideration because its low surface tension of 17.0 dynes per cm. at 20° C. was regarded by us as a desirable physicochemical property. However, because of its high combustibility and rapid evaporation, it was soon eliminated. Chloroform was eliminated because its surface tension of 27.1 dynes per cm. at 20° C. is higher than that of alcohol, and also because of the rapidity with which it evaporates from its mixture with alcohol, constantly changing both the defatting properties of the original solution and the dye concentration. Tetrachlorethane, as we observed it, volatilizes from its alcohol solution at about the same rate as does the alcohol. It has a decidedly objectionable odor and is considered toxic if its concentration in the air is considerable and exposure to its vapors is prolonged. However, when the staining solution is used in its prepared form in a laboratory properly ventilated, and care is taken to keep the staining jars covered, the objections enumerated can be safely disregarded. Our further experiments, therefore, were limited to the study of a solution of the methylene blue dye in a 50-50 per cent mixture of 95 per cent ethyl alcohol and tetrachlorethane.

After many trials the following formula was adopted as the most suitable for further comparative studies:

Certified methylene blue powder..	0.6 gm.
Ethyl alcohol, 95%.....	50.0 ml.
Tetrachlorethane, technical.....	50.0 ml.

This dye solution was shaken vigorously for 5 minutes, then allowed to stand overnight to enable the dye to go into complete solution. The solution was then again vigorously shaken for 5 minutes and filtered through high grade quantitative filter paper. The milk films were then immersed in this staining solution for 1 minute, gently rinsed in tap water and allowed to dry in the air thoroughly. Overstaining did not occur, even if the slides were left in the staining jar for a longer time. In fact, if the slides were left in the solution too long, the films began to lose some of their stain. This should not be allowed to happen, as the procedure of "doctoring" stained films, in our experience, never gave satisfactory results, no matter what staining procedure was applied. A certain amount of reddish iridescence appeared around the lighter stained bacteria upon continuous refocusing of the objective. The addition of 2.5 ml. of C. P. glycerol to 100 ml. of the staining solution eliminated this difficulty.

After this stain had been extensively tested and found capable of producing favorable results, a search of the literature disclosed that a similar type of staining formula was suggested for milk films by Erb, in 1929.[4] Erb's formula is as follows:

Ether, sulfuric.....	50.0 ml.
Alcohol, ethyl, absolute.....	50.0 ml.
Methylene blue.....	0.59 gm.

It may be that if Erb's paper had been published in a journal more widely read by those engaged in milk work, his formula might have been better known. Our objection to the use of ether as the defatting agent has been stated before. The requisite of "Absolute" alcohol in work where 5 per cent of water would be absorbed in a very short time, appeared to us more as a formality, as did the weighing out of 0.59 gm. of the dye instead of 0.6 gm. For these reasons we did not investigate staining by the formula of Erb.

COMPARATIVE COUNTS OF FILMS STAINED WITH CARBOLATED METHYLENE BLUE, THE NEWMAN-LAMPERT AND THE WATER AND ACID-FREE METHYLENE BLUE STAINING SOLUTIONS

The technic employed in the preparation of the milk films was as follows: Good quality, non-corrosive microscopic slides were used. Triplicate 1 cm. squares were delineated on the slides by means of a diamond point and a specially prepared celluloid or metal gadget developed by one of us.[5] After the samples were adequately shaken, the milk was measured with 0.01 ml. standardized pipettes. Bent needles were used as spreaders. Care was exercised not to allow the milk to spread outside the scratched delineations. The films were then dried on a covered drying plate, thermostatically controlled, at a temperature of 54° C.

In the 8th edition of *Standard Methods for the Examination of Dairy Products* no definite requisite is described for the selection of microscopic fields representative of the 1 cm. square area. Levowitz[6] suggested the strip area procedure. Hanks and James[7] suggested that microsampling be done along two median lines at right angles. With occasional exceptions, we followed the latter procedure. The number of fields counted were those stipulated in the 8th edition of *Standard Methods*.

Two sets of counts were made. In the first set, duplicate films, as previously described, were made of each of ten raw milk samples, stained by the Carbolated Methylene Blue and the water and acid-free procedure studied by us, and counted for the number of bacteria and leucocytes. The results are shown in Table 1. In the

TABLE 1

Comparative Counts of Bacteria and of Leucocytes in Raw Milks on Slides Stained by the Carbolated Methylene Blue and by the Proposed New Procedure

	Bacterial Clump Counts		Leucocyte Counts	
Series	Carbolated Methylene Blue	Water and Acid-free Stain	Carbolated Methylene Blue	Water and Acid-free Stain
1	528,000	1,176,000	3,120,000	2,532,000
2	576,000	828,000	3,444,000	1,148,000
3	720,000	1,040,000	5,352,000	6,120,000
4	768,000	1,728,000	3,456,000	3,024,000
5	1,644,000	2,136,000	1,524,000	1,692,000
6	1,680,000	3,204,000	1,068,000	588,000
7	2,364,000	2,652,000	4,128,000	3,612,000
8	3,108,000	6,060,000	2,040,000	1,584,000
9	8,610,000	27,610,000	No Leucocytes observed	
10	10,605,000	20,085,000	6,885,000	6,090,000
Average	3,006,000	6,672,000	3,102,000	2,639,000
Count Ratios	1.0	2.22	1.0	0.85

second set triplicate films were made of each of 13 raw milk samples, stained by the Carbolated Methylene Blue, the Newman-Lampert, and the authors' proposed procedures. The results are presented in Table 2.

The data presented in Table 1 indicate that the critical analysis of the difficulties inherent in the Standard Methylene Blue and in the Newman-Lampert stains previously discussed by us [1] appears to be essentially correct, and that the principles upon which the stain proposed by us is based are in accord with the varied affinities for the blue dye possessed by bacteria of different species and most probably of different ages. The average bacterial count by the water and acid-free stain was 122 per cent greater than the average count by the Carbolated Methylene Blue stain. The leucocyte count showed an average of 15 per cent lower than by the Carbolated Methylene Blue. This reduction in the leucocyte counts by the new stain does not occur as a constant phenomenon, as is shown by the data appearing in Table 2. The data presented in Table 2 again show that remarkably close counts can be

TABLE 2

Comparative Counts of Bacteria and of Leucocytes in Raw Milks on Slides Stained by the Carbolated Methylene Blue, the Newman-Lampert and the Proposed New Staining Procedure

	Bacterial Clump Counts			Leucocyte Counts		
Series	Carbolated	Newman-Lampert	Water and Acid-free Stain	Carbolated	Newman-Lampert	Water and Acid-free Stain
1	500,000	600,000	540,000	1,824,000	2,200,000	1,740,000
2	636,000	780,000	1,600,000	1,476,000	2,160,000	896,000
3	750,000	768,000	1,044,000	5,316,000	7,560,000	6,888,000
4	756,000	1,044,000	1,240,000	3,120,000	3,036,000	3,480,000
5	780,000	840,000	1,664,000	1,884,000	2,472,000	2,268,000
6	792,000	612,000	1,080,000	2,560,000	2,676,000	3,288,000
7	1,240,000	1,416,000	2,700,000	4,860,000	4,704,000	4,260,000
8	1,260,000	1,800,000	4,176,000	4,445,000	4,608,000	4,176,000
9	1,464,000	1,872,000	2,160,000	4,200,000	4,300,000	4,256,000
10	1,600,000	1,092,000	2,052,000	1,740,000	2,204,000	1,740,000
11	1,704,000	1,356,000	3,312,000	1,380,000	948,000	1,416,000
12	1,932,000	2,000,000	3,348,000	1,200,000	1,932,000	1,464,000
13	3,300,000	2,916,000	4,056,000	3,180,000	4,200,000	3,984,000
Average	1,285,000	1,315,000	2,230,000	2,845,000	3,300,000	3,984,000
Count Ratios	1.00	1.00	1.66	1.00	1.16	1.08

made on duplicate films of raw milk stained by the Carbolated Methylene Blue and the Newman-Lampert technics. This appears to apply equally to counts of bacteria and leucocytes. The leucocyte counts obtained from milk films stained by the authors' procedure were 15 per cent lower in one set and 8 per cent higher in the other, averaging only 9 per cent below either of the other two stains. The bacterial counts were 122 per cent higher in the first set and 66 per cent higher in the second set, with an average increase of approximately 94 per cent.

In another comparative study of a limited number of stained films, an average increase as high as 700 per cent was obtained for milks containing below 200,000 clumps by the carbolated methylene blue, and an increase of 100 per cent for milks containing over 1,000,000 bacterial clumps by the carbolated methylene blue. Inasmuch as the procedure outlined by us is basically simple and employs reagents easily obtained and well known to laboratory workers, it is believed that it merits serious consideration and further study on a broader basis of application.

The films appear under the microscope sufficiently stained, and the morphology of bacteria and other cells is clear-cut and unmistakable. The stained background shuts off enough of the light to lessen eye fatigue. The leucocytes appear the darkest. The bacteria stain in various degrees of intensity, and are distinguishable at all depths of the milk film, including the bacteria fixed immediately upon the surface of the slide. With this stain, therefore, probably more than with other stains, continuous refocusing of the objective is of utmost importance.

A POLYCHROME METHYLENE BLUE STAIN

At the time the material above reported was being typed in its final form for publication, a manuscript of a paper by Anderson, Moehring, and Gunderson,[8] describing the preparation and application of a polychrome methylene blue stain was received. From the viewpoint of adsorption this staining solution presents a complex heterogeneous system, since it contains sulfuric acid, potassium dichromate, disodium acid phosphate, methylene blue hydrochloride, a number of different and possibly variable polychrome methylene blues, plus some unknown intermediate chemical compounds resulting from the process of the polychrome production described. The discussion of the interplay of forces comprising such a system of adsorption would necessitate extensive experimentation and would lead into lengthy considerations. We were not prepared at the moment to devote time to such analysis, and limited our investigation of this staining solution to a study of bacterial counts obtained by this compared with other stains.

In the manuscript the authors stated that better results were secured when a 50-50 per cent mixture of ethyl alcohol and chloroform was used for defatting and fixing of milk films. The value of such a mixture was discussed by us earlier in this report and will be discussed in a later paragraph. The ingredients used in the preparation of the polychrome solution as given in the manuscript of Anderson, Moehring and Gunderson were as follows:

Methylene blue	0.5 gm.
Potassium dichromate	0.5 gm.
Sulfuric acid (1%)	3.0 ml.
Water	500.0 ml.

We received from Anderson and Gunderson a quantity of this unbuffered staining solution prepared by them and used it in the comparative tests.

Triplicate sets of films of ten raw milk samples were prepared, stained by each of the procedures, and counted. The results are summarized in Table 3. Defatting and fixing with alcohol-

TABLE 3

Comparison of Bacterial Clump Counts of Milk Films Stained by Carbolated, Polychrome and Water and Acid-Free Methylene Blue Stains

Carbolated Methylene Blue Counts 200,000 or below				*Carbolated Methylene Blue Counts 1,000,000 or over*			
Slide No.	*Carbolated*	*Polychrome*	*Water and Acid-Free*	*Slide No.*	*Carbolated*	*Polychrome*	*Water and Acid-Free*
1	150,000	580,000	920,000	6	900,000	1,900,000	3,300,000
2	160,000	880,000	1,500,000	7	1,000,000	2,000,000	2,000,000
3	160,000	1,400,000	1,500,000	8	1,400,000	1,700,000	1,800,000
4	180,000	1,100,000	1,700,000	9	4,300,000	5,600,000	7,500,000
5	200,000	1,200,000	1,400,000	10	5,100,000	7,600,000	10,000,000
Average	170,000	1,000,000	1,300,000		2,500,000	3,800,000	4,900,000
Percentage increase over Carbolated		490%	660%			52%	96%
Percentage increase over Polychrome			33%				30%

chloroform produced a semi-translucent evenly fixed film. With the unbuffered solution, occasional peeling in spots occurred, but not frequently nor extensively enough to cause any difficulty. However, as previously stated, chloroform is rapidly evaporated from its mixture with alcohol and in a short time its concentration is diminished, reducing the defatting properties of the mixture. To anyone who prefers the use of chloroform as a milk film defattant, it might be recommended that it be used in a separate step, followed by fixing in alcohol alone. By the time the milk film is transferred from the chloroform-containing to the alcohol-containing jar, the chloroform completely evaporates, and no time is lost, and the defatting is more complete. The haziness of the film previously mentioned is not eliminated thereby.

The staining solution, commonly referred to as a "polychrome methylene blue," was first recommended by Singh, Jaswant, and Brattacher in 1944 for staining malarial parasites.[9] Apparently their method of preparing the dye produced incompletely satisfactory results. Manwell in 1945 described a modification of the original method intended primarily for staining malarial parasites.[10] He referred to it as the J.S.B. staining solution. Later Manwell and Feigelson[11] further modified the procedure. In their last revised manuscript, Anderson, Moehring, and Gunderson[12] give the following ingredients to be used in the preparation of the polychrome methylene blue staining solution:

Methylene blue	0.5 gm.
Potassium dichromate, C.P. 5%	10.0 ml.
Sulfuric acid, C.P. 1%	3.0 ml.
Disodium hydrogen phosphate	1.0 gm.
Distilled water	990.0 ml.

Steps for the preparation of the staining solution are outlined in a mimeographed leaflet issued by the Rockford, Ill., Health Department October 7, 1947. We were rather surprised to find that the authors added disodium hydrogen phosphate to their formula, since in one of their personal communications[13] Anderson and Gunderson stated: "We have found that buffer salts in the stain cause the film to wrinkle more or less around the edges," and in another personal communication[14] they wrote: "We find they [phosphate salts] cause a marked distortion of the film." Anderson and Gunderson sent us some of the staining solution prepared as described in their mimeographed outline. We tested it on films of raw and pasteurized milk and experienced considerable difficulty with

extensive wrinking and oftentimes complete washing off of the milk films. It appears reasonable to suppose, therefore, that further modifications may be proposed. At present the dye cannot be purchased commercially as a certified product, hence laboratories wishing to use it must go through the complex process of preparing it. Experience alone can indicate whether or not the procedure for the dye preparation described in the mimeographed outline will consistently produce identical results in various laboratories.

In malarial parasites the J.S.B. polychrome staining solution produces differential polychromic staining. In raw milk smears no polychrome effects are discernible. The milk proteins of the background of the films and the bacteria as well as any adventitious matter thus far observed all stain a bluish somewhat muddy violet. The differential effects are produced by differences in the amount of dye adsorbed by the background proteins, the leucocytes and the bacteria. The milk proteins stain the lightest, the leucocytes the heaviest, and the bacteria in varying degrees in between. The milk film appears evenly stained and no heavy cloud-roll effects, commonly encountered with the carbolated methylene blue staining solution, have been observed. The stained film appears slightly foggy but this does not seem to interfere with the recognition of bacteria. The background, as in the staining procedure discussed just previously, stains intensely enough to shut out excess light, and fatiguing of the eye is considerably lessened. As in slides stained by our water- and acid-free procedure, we found no need for the use of light filters. However, considerable difficulty was experienced when continuous refocusing of the objective was resorted to. The refocusing range with this type of polychrome methylene blue stain is confined to an extremely narrow range, beyond which the bacteria and some of the leucocytes manifest a reddish iridescence which obscures their morphology.

The average increase in bacterial counts of two groups of five films stained with carbolated methylene blue, as shown in Table 3, was 490 per cent for a group of five films counting 200,000 clumps or less by the carbolated methylene blue, and 52 per cent for the group of five films of 1,000,000 clumps or over. Corresponding increases with the water- and acid-free stain proposed by us were 660 per cent and 92 per cent. Since the latter counts were greater than those yielded by the polychrome methylene blue, they must be considered as the present maximal counts. These increases in counts, in the light of experience accumulated through years of study of the direct microscopic count methods, may appear incredible and confusing. However, if corroborated in future studies, the results would call for an extensive discussion and reconsideration of certain heretofore established notions and practices now prevailing in bacteriological milk analysis.

SUMMARY

1. A theoretical discussion is presented of certain principles of adsorption as they apply to the study of staining procedures for the direct microscopic examination of milk.

2. In concordance with such principles a two-dip staining solution consisting of 0.6 per cent methylene blue dye dissolved in 95 per cent ethyl alcohol and a single-dip staining solution consisting of alcohol, tetrachlorethane and methylene blue hydrochloride have been developed, free from added water and acid.

3. The results presented indicate that such staining solutions are capable of yielding present maximal bacterial counts in milk.

4. A polychrome methylene blue solution similarly yielded materially higher counts than carbolated methylene blue.

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" It is scarcely necessary to acknowledge our vast indebtedness to science in giving us the methods and patterns of research in human relationships. Every contribution of science to the problems of society is to be welcomed. But the enlightenment of science is bringing with it a tendency to reject the limitations of science. To expect that exact measurement and exhaustive definition will relieve us of the necessity of ethical inquiry, or that the meaning and values of human life will somehow or other crystallize as physics crystallized around the concepts of mass and energy, is a form of superstition as deadly as any we have known.

" The issues of our time and of human destiny will be determined, not at the physical, but at the ethical and social level. Material power and dollars and military ascendancy may preserve us temporarily; but the dynamic tensions of our society can be relieved only by moral and social wisdom, and that kind of wisdom cannot be precipitated in a test tube nor can it be won by the brilliant processes of nuclear physics."—Raymond B. Fosdick, *Rockefeller Foundation—A Review for 1947.*

Bacteriological and Epidemiological Data on Typhoid Fever in Amsterdam

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SHORTLY after World War I typhoid fever was one of the major problems in Amsterdam.* Epidemiological analysis showed that milk was one of the main sources of the infection. Many farms in the neighborhood of Amsterdam, which provided the city with milk, lay in a district where typhoid was prevalent and sanitation was poor. An attempt to combat the spread of the disease was made by the public health authorities in the following ways: An intensive search for carriers and a strict survey at the farms were instituted, carriers were forbidden to handle milk, the sale of raw milk from farms or houses with cases of typhoid was legally prohibited, the water supply at the farms was improved, and the public was educated not to use raw milk. These measures were followed by a rapid decrease in the number of typhoid cases and for many years after 1930 milk was seldom the source of typhoid in Amsterdam. There still remained each year several cases of unknown origin. Figure 1 gives the number of typhoid cases divided into groups according to the source of the infection. Figure 2 gives the number of carriers known to the public health authorities in Amsterdam and the number of carriers detected each year.[4]

The bacteriological examinations were made in the Municipal Public Health Laboratories. In earlier days only Endo's medium was used; in 1927 it was combined with the tetrathionate enrichment broth of L. Muller. Kauffmann's enrichment medium did not appreciably improve the results, but when in 1936 the medium of Wilson and Blair was added, the number of positive findings increased very much. In an article in 1940[1] I could demonstrate that in one series the number of positive results rose from 165 to 222 by the use of Wilson and Blair's medium.

However, the greatest progress made was in the field of the examination of surface water. Before this, we never succeeded in tracing with certainty the source of typhoid infections to water. By means of Wilson and Blair's medium, we could demonstrate in several small epidemics and isolated cases in the surroundings of Amsterdam that contaminated water was the source of the infection. In the small fishing town of Volendam we isolated on 13 different dates typhoid bacilli from various parts of the canals.[2] In another village, we isolated typhoid bacilli from the ice covering a frozen canal, where three weeks previously a child had infected herself by sucking a piece of ice.[3] However, in the city of Amsterdam surface water does not play an important part in the spread of the disease.

In the first years of the war typhoid did not increase very much; until September, 1944, the situation remained reasonable. The number of cases was fairly low, although the search for carriers yielded each year a few hitherto

* Amsterdam is a city with approximately 800,000 inhabitants. It is a large seaport with much traffic.

unknown ones. While the number of patients decreased the number of known carriers increased, as is shown in Figures 1 and 2. Some carriers were removed from the list as they became negative following the extirpation of the gall bladder, others moved to another residence and some died.

The total number of patients considered to be infected in Amsterdam during the last 20 years is given in Table 1.

In the hunger winter (1944–1945) there was a total collapse of preventive measures. All traffic became extremely dangerous, so that control at the farms and food control in the surroundings of Amsterdam was almost impossible. There was no longer any gas, electricity, or fuel to heat the food sufficiently.

In December, 1944, a severe typhoid epidemic broke out, which could be traced to the consumption of contaminated smoked eels. The fish had been kept alive for several days in the water of the harbor of the small fishing town. There they were contaminated by the sewage which flowed into the harbor. They could not be smoked immediately for lack of wood. Finally they were smoked, but insufficiently. The eel

TABLE 1

Cases of Typhoid Infected in Amsterdam

Year	Cases	Year	Cases
1928	90	1938	15
1929	23	1939	10
1930	41	1940	12
1931	33	1941	8
1932	26	1942	19
1933	20	1943	17
1934	27	1944	133
1935	16	1945	576
1936	14	1946	60
1937	13	1947	11

FIGURE 1

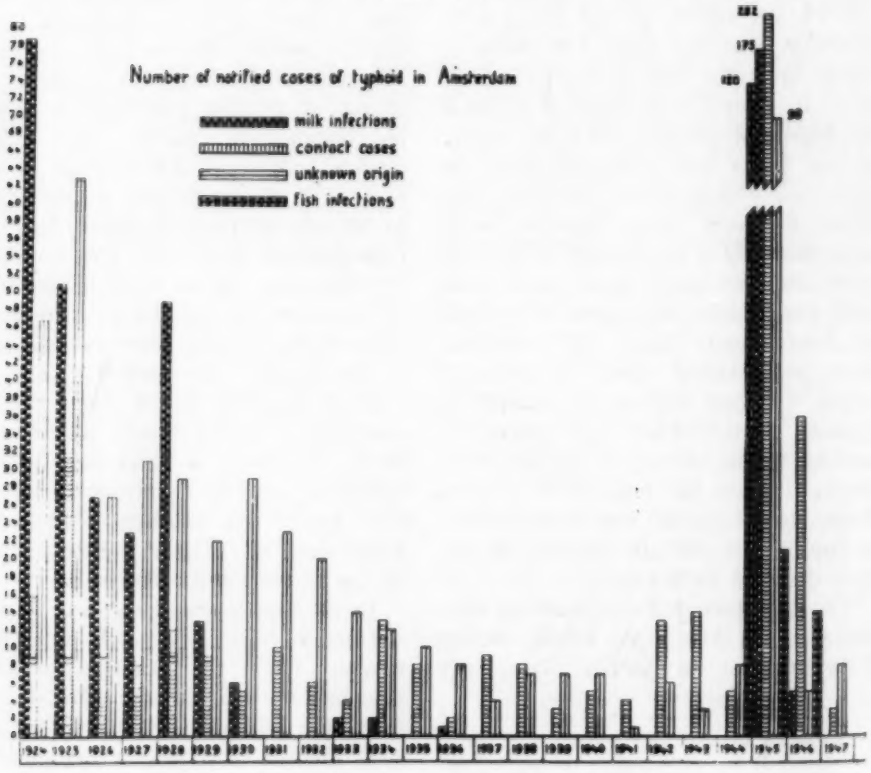
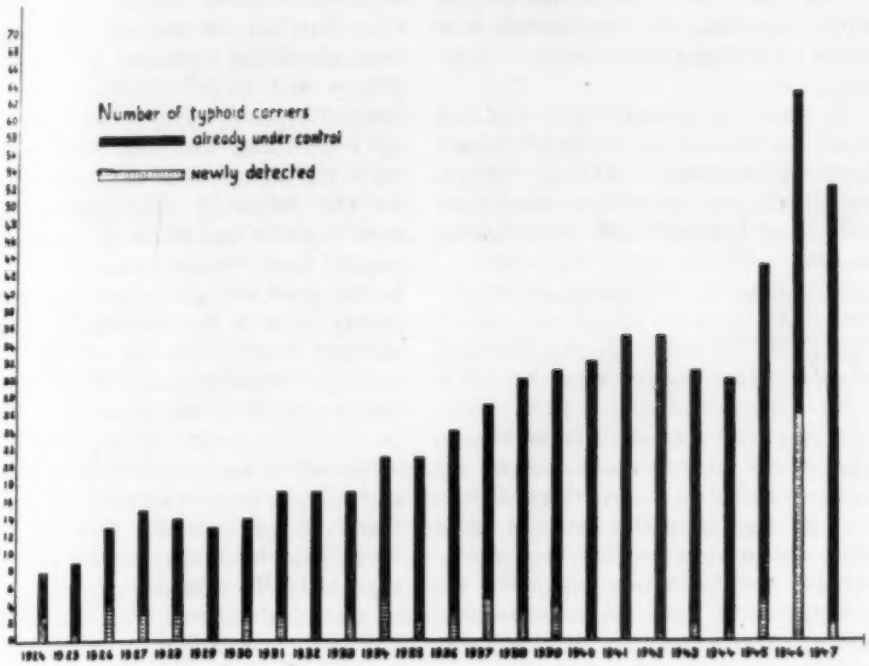


FIGURE 2



meat was officially discarded, but it found its way into the black market and the starving people were ready to eat even spoiled food. From this source 141 patients acquired typhoid and caused another 21 contact cases.[4]

After the liberation in 1945, thousands of prisoners and workmen came home from Germany, many of them in the incubation period of typhoid. Also people returned from various parts of the country where typhoid was prevalent. Many cases were not diagnosed immediately because the patients did not call a doctor for fear of being taken to a hospital after having returned to their homes so recently. Several members of their families were contaminated. There were 197 cases infected outside Amsterdam which are not registered in Figure 1 and Table 1.

In the summer of 1945 another epidemic broke out caused by milk which had been contaminated in a large plant after pasteurization and before distribution. There were no bottles; there still was no gas, electricity, or fuel to heat the milk, which to a large extent was drunk in raw condition. We found a carrier working at the plant. The number of victims was 175. The absolute lack of soap, textile, toilet paper, hot water, and disinfectants favored the spread of the disease, and a high number of 282 contact cases was noted. Despite the absence of gas and electricity the laboratory kept working and the diagnosis was confirmed in all cases, bacteriologically or serologically.

At the end of the year the situation was in hand again but we were left with a large number of new carriers. The known ones are given in Figure 2, but we are sure there have been many more still unrecognized.

Soon after the liberation, the labo-

ratory received from friends in the United States and from Dutch friends abroad supplies of the various new media for the diagnosis of enteric infections.

We first compared the results of stool specimens on Endo, Leifson's desoxycholate-citrate (D.C.),[5] Wilson and Blair's, and the selenite enrichment medium of Leifson,[6] with the following results:

Positive by means of:		*Exclusively Positive:*	
Endo	20	Endo	0
Desoxycholate-citrate	52	D.C.	6
Wilson-Blair	48	Wilson-Blair	8
Selenite	66	Selenite	19
Total	82		

These figures show that it is not wise to rely on one or two media. Even the most selective ones sometimes fail to demonstrate the pathogens. In these series the selenite medium was exceptionally good.* A new sample of the same chemical from the same factory, however, was less satisfactory, and several samples from other factories never reached the standard of the first.

In another series we replaced the Endo by the S.S. plate of Difco. In this series the selenite medium fell below the D.C. plate. The S.S. medium gave approximately the same percentage of positive results as Wilson and Blair's.

Again we find that the larger the series of highly selective media, the larger the number of positive specimens.

Positive by means of:		*Exclusively Positive on:*	
S.S.	56		2
D.C.	70		3
Wilson-Blair	57		3
Selenite	67		3
Total	94		

Since the introduction of these highly selective media in the routine examination of stools we have found some positive results in healthy people who could not be considered as chronic carriers. We did not find them among food handlers and other people from healthy surroundings. They had always had a recent contact with typhoid cases but had not suffered from a disease resembling typhoid. By means of Wilson and Blair's medium alone we isolated typhoid bacilli from the stools of 2 contacts, who had not suffered from the disease and did not fall ill. In the following examinations they were negative and remained so on subsequent tests. Quite a number of unexpected positive cases were found in a survey with all our new media in September, 1946.[7] In one of the large hotels a wedding party was infected with typhoid; in the course of 2 weeks 14 of the 17 guests fell ill. The stools of the whole staff of the hotel, 217 men and women, were examined and 2 were found to be suffering from typhoid. Five of the kitchen staff were excreting typhoid bacilli without being ill. None of them had suffered from the disease. Typhoid H suspensions were not agglutinated by their sera, typhoid O agglutination was positive 1:50 or negative. They showed a negative Vi-agglutination. Four of them were found positive only by means of the excellent sample of the selenite medium. All had been vaccinated against typhoid a year before. Several control examinations afterward were always negative. Four were reëxamined 16 months later with negative results, but we were unable to make a culture from the duodenal gall.

Two guests of the wedding party who were not ill yielded positive stool cultures 4 weeks later. One of them suffered a light attack of typhoid 35 days after the infecting meal; she had been vaccinated a year before. The other gave negative stool cultures in two consecutive examinations, and then suffered a light attack of typhoid 3 weeks later, which was 2½ months after the wedding party. The source of the infection was found afterward to be outside the hotel. An epidemiological analysis of some

* We used mannitol instead of lactose following an English prescription.

other cases of typhoid pointed to a herring handler. In his home we found the stepmother to be a chronic carrier. She was ill and had moved into the home of the herring handler some weeks previously. Her daughter, who nursed her, probably infected a batch of salt herrings and the infection spread in the herrings during the 24 hours process of desalting. In a series of experiments I could demonstrate by means of the selenite medium that in this way salt herrings may become an excellent source of infection. All the patients and temporary carriers had eaten herrings from this handler, and the hotel received the herrings from his shop.

The five cooks resumed their work and no more cases occurred. The Vi-phage typing performed by Dr. Scholtens in the State Laboratories at Utrecht showed that the patients, the stepmother, and the temporary carriers all were infected with the same type (E_1).

On a large ship, where during two subsequent voyages several typhoid cases had been observed, the whole crew was examined. Two of the kitchen staff (Goanese people) and a Chinese carpenter yielded positive cultures. In none of them was there a history of typhoid or any serious illness. Repeated Vi-phage typing by Dr. Scholtens showed that the kitchen workers harbored different strains of Type A, one the ordinary type, the other, a maltose non-fermenting strain. Both proved to be chronic carriers, one with a positive Vi agglutination 1:20, the carrier of the variant strains with a negative Vi agglutination. However, the patients and the Chinese carpenter all were infected with a phage Type D_6 strain. The carpenter, who had been immunized some time before, agglutinated typhoid H suspension 1:250, typhoid O suspension 1:100, typhoid Vi negative. His stools were twice found positive but he did not fall ill. Two weeks later his stools were negative and remained so on 4 subsequent tests, and again half a year and a year later. The last observation showed negative seroreactions and a negative gall culture. He remained on the ship and no more cases occurred. Most probably he was a temporary carrier and the source of the infection remained unknown.

DISCUSSION

The observations related above very strongly suggest that the finding of typhoid bacilli in contacts of typhoid cases may be an indication of a temporary infection of the intestinal tract which need not be followed by clinical symptoms of disease. In paratyphoid B, temporary infections in contacts without any clinical symptoms are even more frequent. When examining the contacts of 77 patients we found *Salmonella schottmülleri* in the stools of 16 people who did not develop the disease. All were found positive several times but lost their infection after a few weeks to several months. None remained a chronic carrier.

The question arises whether typhoid and paratyphoid bacilli may be less pathogenic than is generally assumed. This suggestion is supported by other epidemiological findings.

Known chronic carriers of typhoid and paratyphoid bacilli generally do not cause any more new cases after they have been recognized as carriers. Only very unhygienic people with dirty habits remain a constant source of danger. As a rule simple preventive measures are enough to protect the families. However, from the rapid and easy spread of dysentery in a family we know how large fecal contact may be, even in "hygienic families."

The repeated finding of enormous numbers of typhoid bacilli in some Dutch canals, the water of which is used extensively for traffic and household purposes, also suggests a rather low pathogenicity. The same is true

for the water in Batavia.[8] Typhoid is present in these communities, but not on such a scale as one would expect from the intensive contact with the heavily polluted surface water.

SUMMARY AND CONCLUSION

For the isolation of typhoid bacilli a series of highly selective media should be used, for instance, selenite enrichment fluid and the Wilson-Blair, S.S., desoxycholate-citrate media and others. By means of these highly selective media several temporary carriers of typhoid bacilli were found.

During and after the war three large epidemics of typhoid were observed; one caused by smoked eels, one by salt herrings, and another by milk contaminated by a chronic carrier in a dairy plant.

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A New and Rapid Method for the Preparation and Standardization of Brucella Ring Test Antigen

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THE titration of *Brucella* agglutinins in milk is of accepted diagnostic significance and is extensively employed by Cooledge,[1] Gilman,[2] Henry, Haring, and Traum.[3]

The agglutination is usually performed by either the slow tube method or the rapid plate method on whey obtained by treating the milk with rennet. In an attempt to avoid false-positive reactions caused by particles of casein or fat, use has been made of stained antigen with good results, Hermann.[4] The author has found that the temperature at which clot retraction is allowed to occur in the preparation of whey has a marked effect on the titer subsequently obtained; thus, samples treated at 4° C. have occasionally been found which gave a titer of 4 times higher than the same sample treated at 56° C.

It is known that, in infected milk, *Brucella* organisms concentrate in the cream layer where they are as much as 50 to 100 times more numerous than in the underlying milk. If intensely stained antigen is added to milk having agglutinins, the concentration of the antigen in the cream layer will give a distinctive color to the cream. The same antigen added to a milk sample free of agglutinins will remain distributed throughout the milk leaving the cream layer uncolored. This phenomenon is the basis of the Ring Test (known abroad as the Abortus-Bang-Ringprobe) discussed by Hermann [5] and further studied by Darnell.[6] The test for the presence of *Brucella* agglutinins based on this phenomenon is simpler and quicker to perform.

PREPARATION OF ANTIGEN

Previously described methods involve growing the organisms on agar for 3 or 4 days. This is objectionable because of the relatively small yield of antigen obtained, the time required, and the presence of both dissolved agar and particles of agar which oversensitize the antigen. I have modified the method as follows:

Since the Ring Test requires a larger quantity of bacterial cells than the slow tube agglutination method, massive growth of a smooth strain of *Brucella abortus* is obtained in 24 to 48 hours by the method described by Brown and Wood,[8] using broth as a medium.

Pancreative digest of beef heart, Brown,[9] or Trypticase Soy Broth (B.B.L.) have been found satisfactory. A typical yield has been 10 ml. of finished antigen from 100 ml. of broth.

The growth is harvested in a flask and sufficient 1 per cent phenol in 0.85 per cent sodium chloride solution is added to give a final concentration of

0.5 per cent phenol. After standing for 24 hours at 20° C., the phenolized antigen is distributed in well stoppered centrifuged bottles and immersed in the water bath at 60° C. for one hour. The bottles are chilled rapidly in cold running tap water and then centrifuged at 3,500 r.p.m. until sedimented. The supernatant is discarded and the cells are resuspended in distilled water and filtered through glass wool to remove any gross particles that may be present. After 2 more washings in distilled water, the volume of the sedimented cells is noted, then they are resuspended in 2 volumes of distilled water preparatory to staining.

STAINING METHOD

A well "ripened" solution of Delafield's Hematoxylin is employed, Kolmer and Boerner.[7] Immediately before use, it is filtered and diluted 1:5 with distilled water. To the volume of packed cells previously noted, 25 volumes of stain are added with thorough mixing. After staining for 6 hours at 20° C., the bacteria are centrifuged down and repeatedly washed with distilled water until the supernatant remains colorless. Three washings are usually sufficient. After the final washing, the sedimented bacteria are resuspended in 6 volumes of 0.85 per cent sodium chloride solution containing 0.5 per cent phenol, preparatory to standardization.

STANDARDIZATION OF ANTIGEN

Using phenolized sodium chloride as a diluent, samples of antigen are set up in 5 tubes as follows: Undiluted, 1:2, 1:3, 1:4, 1:5.

Two rows of Wassermann tubes are set up in a rack. In one row, one ml. of known positive milk is added to each tube. In the other row, one ml. of a known negative milk is added to each tube. One drop of each dilution of antigen is added to a corresponding pair of a positive and a negative tube of milk. The tubes are gently shaken to mix the antigen thoroughly and the rack is placed in a water bath at 37° C. for 30 minutes.

The optimum dilution of antigen is that which shows a distinct purple color throughout the cream layer of the positive sample with practically no color in the underlying milk. The same dilution of antigen in the known negative sample should show little or no color in the cream layer with an evenly distributed blue color in the underlying milk. If a known negative sample shows more color in the cream layer than in the underlying milk, the antigen is unsatisfactory and should be discarded.

The antigen is next checked for sensitivity. The whey titer of a positive milk sample is accurately determined by the slow tube method. The positive whole milk is then serially diluted with negative whole milk to beyond the end point determined by the whey titration, in such manner that the final volume in each tube is one ml. One drop of previously chosen optimum dilution of antigen is added to each tube with gentle shaking and incubated for 30 minutes at 37° C. in the water bath. The antigen is satisfactory if the last tube showing a positive ring corresponds to the same dilution in the whey titration at which the end point was found.

USES AND SENSITIVITY

Hematoxylin stained *Brucella* antigen may be substituted for the unstained antigen generally used in both the slow tube and rapid plate method of serum agglutinations. For these methods the antigen must be appropriately standardized by dilution so that known positive samples run in parallel; using stained and unstained antigen, give the same end point. Stained antigen in these tests gives a more easily read end point.

The Ring Test may be used for

skimmed milk or homogenized milk by adding 2 or 3 drops of negative cream to each ml. of milk. Tests on serum or whole citrated blood to which negative cream has been added have given encouraging results not only with *Brucella* antigen but also with others.

The antigen prepared as described above has been used in parallel with the standard whey agglutination test on a large number of milk samples. In no case was a positive obtained by the whey titration which was not also positive by the Ring Test. This is in agreement with the findings of previous authors using antigen prepared by other methods. The Ring Test method has been found by the author to be a reliable and rapid method, having fewer sources of error than the whey titration method, even when used as a qualitative rather than quantitative test.

SUMMARY

A method for the rapid production of large quantities of *Brucella* antigen with the complete absence of both agar particles and dissolved agar is described. The antigen is satisfactory for use in the usual methods of testing as well as for the Ring Test.

The Ring Test has been found as sensitive as whey titration for detecting *Brucella* agglutinins in milk.

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Effectiveness of Compound G-11 in Reducing Pyogenic Skin Infections

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PREVIOUS investigations[1] had shown that the chemical compound 2,2'-dihydroxy-3, 5, 6-3'5', 6'-hexachloro-diphenyl-methane[2] (hereinafter termed G-11) when incorporated in a toilet soap to the amount of 2 per cent † and used daily in ordinary routine cleansing of the skin made it possible to reach and maintain an exceedingly low bacterial population on the skin of the hands and forearms. Seastone,[3] working with the same compound, made observations on the use of G-11 in the surgical scrub. Also, Traub, Newhall, and Fuller have shown[4] that 2 per cent G-11 soap produces a truly bactericidal rather than bacteriostatic action and does not form a film on the skin under which viable bacteria are retained in large numbers. The 2 per cent G-11 soap reduced both pathogenic and non-pathogenic organisms found on the human skin, and compound G-11 was found to be non-irritating to the skin as judged by more than 400 repeated patch tests. It was believed that exclusive use of soap containing compound G-11 should reduce the probability of infection following abrasions and superficial wounds of the skin, and it was suggested that the use of this soap would protect against cutaneous infections such as hair follicle infections, etc.

METHODS

In a desire to put to practical use 2 per cent G-11 soap in reducing the incidence of skin infections on a large heterogeneous population, we selected as an experimental group the entire population of the Brandon State School, an institution caring for mental defectives ranging in chronological age from 6 months to over 50 years. During the 2 year period covered by the study, the resident population averaged 389 persons including 179 males and 210 females; most of these persons were resident continuously at the institution and therefore under constant medical supervision. The subjects represented a typical sample of idiots, imbeciles, and morons of all ages and clinical types.

It is believed that an institutional group of this type constitutes an ideal population for such an experiment because of the notoriously high incidence of pyogenic infections of the skin among mental defectives who live in a grossly contaminated dirty environment and possess insufficient intelligence to apply even the most rudimentary rules of cleanliness. This type of population is also desirable because their conditions of living may be rigidly controlled over long periods of time.

* With the technical assistance of Winston E. Cochran, B.S.

† The soaps used in these experiments were supplied by Givandan-Delawanna, Inc., New York.

Plan of Experiment—The basic plan of the experiment was to compare the incidence of all types of superficial and deep pyogenic infections of the skin during a control period extending from June 1, 1945, to May 31, 1946, in which no special medications or precautions were employed, with the results of a comparable 12 month period extending from June 1, 1946, to May 31, 1947, during which the entire situation was held constant except for the introduction of G-11 soap as the variable experimental factor. It so happened that comprehensive data concerning the incidence of skin infections during the control period had been collected as part of another experiment. The only change in the institutional procedure during the period of this study was the substitution of G-11 soap in the same quantities as had formerly been requisitioned of ordinary toilet soap. In order to avoid suggestion effects, increased incidence of washings or other artifacts, it was decided to keep the fact that an experiment was being conducted secret from both employees and inmates. Only the medical staff and the head nurse who made daily inspections of the population knew of the experiment. The remainder of the staff and the inmates accepted the G-11 soap without question and used it in the same manner as was common routine with ordinary soap.

Recording of Data — During the period of the experiment, the Brandon State School was subjected to a careful medical inspection to determine the incidence of skin infections of all types. The head nurse made daily rounds of the entire institution, routinely inquiring for cases needing treatment. All cases were subsequently observed by one of the medical staff for evaluation and treatment. A daily record of type, location, duration, and treatment of all skin infections was kept. For the purposes of this experiment, skin infections were classified in the following groups:

1. *Carbuncles*—Acute pyogenic inflammations of the skin and subcutaneous tissues characterized by multiple foci of necrosis and sloughing of the superimposed integument.
2. *Large furuncles*—Acute circumscribed inflammation of a sebaceous gland or hair follicle, usually more than 2 cm. in diameter.
3. *Small furuncles*—Furuncles less than 2 cm. in diameter, and including pustules, pimples, and impetigo contagiosa.
4. *Styes*—Circumscribed infections of hair follicles of eyelid.
5. *Cellulitis*—Including paronychias, and felons.

Treatments — Routine methods of treatment were carried out by the same medical personnel during the 2 year period. Self-limited infections were treated with local applications of ammoniated mercury, sulfathiazole ointment, or ichthyol. Surgical incision was used only with cases presenting definite fluctuation. No special medications except the G-11 soap were introduced during the experimental period.

Bacteriological Controls—In order to provide an objective check of the *in vitro* germicidal effects of G-11 soap in this experimental group, control hand washing experiments according to the technique previously reported [1] were performed on a group of ten subjects. These subjects were chosen from the entire population because they had had the highest incidences of skin infections during the 12 month control period. It was felt that these subjects probably had the highest concentrations of virulent microbial flora because of repeated pyogenic infections during the previous year. The hand washing experiments with bacteriologic colony counts were performed at intervals of from 2 to 3 months during the experimental period.

The general method of hand washings and collection of samples as used in our previous investigations on G-11 soap was used except for the use of three instead of ten basins.

Ordinary tap water having a bacterial

TABLE 1

Bacterial Colony Counts from Handwashing Experiments at Intervals during the Period of Clinical Observation

		Washing Periods				
		Control	Experimental			
Subjects	Basin	1	2	3	4	5
I	1	310	33	17	31	14
	2	112	50	16	25	9
	3	72	20	25	25	6
II	1	176	28	15	10	15
	2	138	32	10	2	4
	3	112	33	22	2	5
III	1	56	24	22	4	37
	2	35	13	19	3	24
	3	21	6	52	10	19
IV	1	190	126	45	29	30
	2	55	69	59	15	15
	3	38	24	61	18	9
V	1	67	32	16	11	17
	2	28	24	14	10	23
	3	15	30	10	1	12
VI	1	166	92	54	2	19
	2	112	45	22	12	28
	3	124	57	24	2	17
VII	1	410		81	17	19
	2	220	*	125	24	64
	3	330		132	18	92
VIII	1	862	104	140	110	14
	2	600	15	68	17	12
	3	300	18	64	6	13
IX	1	536	171		50	167
	2	1,148	247	†	63	230
	3	640	197		57	120
X	1	72	109	118	7	41
	2	22	142	102	5	47
	3	23	129	115	2	30

* Subject was ill at this washing.
† This subject's hand was contaminated by a wound.

count of from four to five organisms per 0.1 ml. sample was used as the washing medium. Two liters of this water were placed in each of three sterile basins. The washing areas on the forearms of each patient were demarcated by adhesive tape at a distance of 14 inches from the tip of the middle finger. The subject washed in each of the three basins with ordinary toilet soap containing no germicidal substance for a period of 2 minutes. The 2 minutes were broken down as follows: lathering, 25 seconds; washing, 75 seconds; rinsing, 20-plus seconds. Rinsing was considered complete when as much suds as possible was removed from the skin test areas.

From each of the three basins two aliquot samples of 0.1 ml. of each wash water was plated on nutrient agar. The plates were incubated for 48 hours and the colonies were counted and recorded.

Table 1 shows the average for the two aliquot samples on each subject for each washing period. The first washing period was on June 5, 1946, at which time the subjects had used no G-11 soap previously, so that the results of these washings serve as an indication of the basic bacterial flora and as control washings for the subsequent counts. The subjects were tested again on November 3, 1946, February 3, 1947, March 30, 1947, and May 30, 1947. Thus, washings were done at 0 months, 5, 8, 10, and 12 months following the introduction of G-11 soap.

TABLE 2

Average Bacterial Colony Counts for Ten Subjects at the Control and Each of the Experimental Washing Periods. The Per cent Reduction in Average Bacterial Colony Counts Is Also Shown

	Washing Periods				
Basins	*1*	*2*	*3*	*4*	*5*
1	285	80	57	27	37
		72%	80%	90%	87%
2	247	71	50	17	45
		71%	80%	93%	82%
3	168	57	56	14	32
		66%	67%	92%	81%
Average	233	69	54	19	38
		70%	76%	92%	83%

Analysis of Table 1 is presented in Table 2. Table 2 shows average bacterial colony counts for all ten subjects at each of the five washing periods. A gradual decline in colony counts will be noted. It also indicates a total reduction in colony counts over a period of a year of over 80 per cent. This indicates the percentage reduction in colony counts during the test period. Inasmuch as the bacteriological results parallel the clinical findings, we believe that the results of this experiment are significant.

Incidence of Infections—The incidence of the various types of infections during the experimental period are found in Table 3. It will be noted that the incidence of all types of infection was decreased greatly during the experimental period with G-11 soap.

The clinical results indicate that the incidence of carbuncles was decreased 89 per cent during the experimental period using G-11 soap. The incidence of large furuncles decreased 78 per cent, while there was an increase of 100 per cent of pyogenic infections classified as small furuncles. Two interpretations are possible of this latter finding. It is possible that the increase in the incidence of small furuncles may be explained on the basis of aborted infections which might have developed into large furuncles or carbuncles had the G-11 soap not been used. Confirmatory evidence for this hypothesis is found by combining the data on the incidence of

TABLE 3

The Incidence of Skin Infections during Control and Experimental Periods

	Carbuncles		*Large Furuncles*		*Small Furuncles*		*Styes*		*Cellulitis*	
	Control 1945	*Exper. 1946*	*Control 1945*	*Exper. 1946*	*Control 1945*	*Exper. 1946*	*Control 1945*	*Exper. 1946*	*Control 1945*	*Exper. 1946*
June	3	0	3	4	4	3	0	1	11	4
July	5	1	4	3	4	5	0	2	6	2
August	7	2	9	3	3	5	0	2	7	4
September	4	1	12	0	2	4	0	1	7	4
October	4	1	8	0	3	8	2	1	9	3
November	4	0	11	0	3	4	0	0	4	2
December	1	0	4	2	1	3	0	0	4	5
January	2	0	3	0	0	3	2	0	10	1
February	5	0	2	1	3	7	1	0	2	1
March	4	0	4	0	1	2	0	0	8	2
April	5	0	5	1	3	5	0	1	10	1
May	0	0	3	1	1	8	0	0	3	1
Totals	44	5	68	15	28	57	5	8	81	30

large and small furuncles. During the control year (1945) there occurred 96 furuncles of all types, while during the experimental period the incidence was decreased to 72, or 25 per cent less. An alternative explanation is that the criteria of classification may have changed in the direction of minimizing the magnitude of the infection. In our opinion, this possibility may be discredited by the fact that during the experimental period there was extreme vigilance utilized in detecting and classifying lesions. In questionable cases, the diagnosis was confirmed by the school physician in addition to the medical director of the Brandon State School.

Particularly convincing in regard to the action of G-11 soap was the decrease in incidence of cellulitis from 81 cases in 1945 to 30 in the experimental period, or a decrease of 63 per cent. It is a long established fact that the severity of pyogenic skin infections in mentally defective populations is much higher than in the general population because of lowered systemic resistance, highly contaminated environment, and poor habits of personal hygiene. The data concerning styes indicated a slight increase during the experimental period; but this finding is not considered significant because there was no reason to suppose that G-11 applied to the skin would exert any effect on the conjunctival sac.

During the period of the experiment, none of the 389 subjects demonstrated any evidence of chemical irritation or sensitivity to the use of G-11 soap.

DISCUSSION

The results of this experiment are considered to be very significant due to the fact that medical opinion has generally regarded it as impossible to decrease the bacterial flora of the skin over long periods of time with chemical agents. The carefully regulated conditions of this experiment, in which the only variable factor was the introduction of G-11 soap demonstrate that it is possible to control the high incidence of skin infections found in institutional populations. It seems important to emphasize that neither the staff nor the inmates of the institution knew that an experiment was being conducted, and that there was no change in the routine of personal hygiene. If anything, the observations during the experimental period were conducted more rigorously than during the control period because of the desire to lean over backward in assuring the validity of the results.

The results confirm that the incidence of pyogenic skin infections is closely related primarily to personal cleanliness rather than to systemic factors. The fact that the bacterial flora of the skin may be so conveniently decreased by the sole addition of G-11 soap with no other change in personal hygiene indicates that great improvements may be made in normal and institutional populations in the prevention of pyogenic skin infections.

SUMMARY AND CONCLUSIONS

An experiment has been performed for the purpose of observing the effect of continuing use of soap containing compound G-11 in reducing the bacterial flora of the skin and decreasing the incidence of pyogenic skin infections. The subjects of the experiment were 389 mentally defective inmates of the Brandon State School on whom detailed records concerning the incidence of skin infections were available for a control period of one year. During the experimental period, the only change in normal institutional routine was the substitution of G-11 soap for ordinary toilet soap previously used. Clinical results indicated a significant decrease in the number and severity of carbuncles, large furuncles, and cellulitis. Control bacterial colony counts performed at intervals during the experiment on a

group of ten inmates who had the highest incidence of individual skin infections during the control period indicated that a corresponding decrease of bacterial skin flora paralleled the clinical results. It is concluded that the continuous use of G-11 soap is of decided value in the prevention of serious pyogenic skin lesions in institutional or other populations.

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July 5

Comment and Criticism, *The Manchester, (England) Guardian Weekly*, Thursday, July 8, 1948:

"On Monday the National Health Service Act came into force, and the passing of the milestone was hailed with a chorus of praise, some of it perhaps too complacent. We are in process of making a great move forward. But only the first step, the legislative part of the move, is now completed. The larger part of the task is to come. It is a moment of opportunity, not of achievement. The health service which now comes into being is only the ground floor of the building. The rest will come; but it still wants building, not by M.P.'s or civil servants in Whitehall but by doctors and nurses and opticians and many more, by members of the regional hospital boards and the local hospital committees. There is now something solid to build on. The Act puts the hospital services as never before on a sound and rational base; the regional boards will be able to make the best use of what hospitals there are. But they know better than anyone that new and better planned hospitals (and many more nurses in them) will be needed before we can call the hospital services wholly satisfactory. The whole population becomes, for the first time, entitled to the medical services hitherto available only to insured workers; the scandal of "under-doctored" areas will slowly disappear. But the full fruit of these reforms will not be ripe until the system of health centres has had time to grow, and that growth would be gradual even if lack of bricks and mortar did not inhibit it at the start. One must think of the health service as a huge natural organism in process of growth, not as a creature of magic, called out of the void by the wand of the Minister of Health."

How Long Does Immunity to Diphtheria Last?

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THE feeling of security imparted to parents following routine immunization procedures of their offspring, especially diphtheria immunization, is due for some critical reëvaluation in the light of recent upsurges of this disease. Such protective inoculations have become accepted routine procedures among private physicians, pediatricians, and health authorities. Children are now offered immunization against diphtheria, whooping cough, and tetanus, either singly or all combined in one injection. On the basis of accumulated published reports most, or all, of these procedures offer a high percentage of immunity when measured in periods of 6 to 18 months following the initial immunization.

The U. S. Public Health Service [1] reported an increased incidence of diphtheria in the United States during the late spring of 1945, and this increase continued on into 1946. During the calendar year of 1945, a total of 18,669 cases of diphtheria were reported, more cases than in any year since 1939. In 1946 there were 16,193 cases reported and 12,511 cases in 1947. Information regarding the age distribution of such cases was not available from the U. S. Public Health Service, since such figures are not furnished by the various state health departments. However, reports gathered from the State Health Departments of Pennsylvania, New York, Massachusetts, and California [2] regarding the age distribution of cases reported in those respective states during the years 1945 and 1946 are given in Table 1.

From these statistics it becomes apparent at once that no age group is immune to diphtheria. The figures from Pennsylvania reveal that 31.5 per

TABLE 1

Diphtheria Cases by Age Groups
1945–1946

	Pennsylvania		*New York* *		*Massachusetts*		*California.*	
Age Groups	*1945*	*1946*	*1945*	*1945*	*1945*	*1946*	*1945*	*1946*
Under 1 yr.	11	9	1	0	1	3	18	29
1– 4	128	183	24	9	37	111	331	271
5– 9	98	216	37	95	46	141	358	339
10–14	41	105	22	72	25	80	150	137
15–19	49	72	5	23	15	30	101	84
20–24	33	51	10	16	19	13	79	63
25–29	28	43	7	14	10	15	61	58
30–34	17	29	5	16	9	8	46	49
35–44	19	24	2	12	14	20	63	59
45–54	13	12	5	15	9	7	32	38
Over 55	4	9	3	10	9	11	40	31
Unknown	..	..	..	..	..	..	20	28
Totals	441	754	121	339	194	439	1,299	1,186

* Excluding New York City

cent of the reported cases in 1945 and 25.4 per cent of the cases in 1946 occurred among infants and children under 5 years of age. The New York State average in 1945 was 20 per cent but fell considerably below this figure in 1946. In Massachusetts, 20 per cent of the cases of reported diphtheria occurred in this preschool age group in 1945 and 26 per cent of the reported cases in 1946. California reported approximately 25 per cent to 27 per cent of diphtheria cases in this same age group in the years 1945 and 1946.

A survey conducted by the York City Department of Health in 1946 regarding diphtheria immunization among first grade pupils prior to entering school revealed the fact that, of 956 pupils enrolled, only 282 pupils or 29.5 per cent of pupils had received diphtheria immunization in preschool years. It is probably the general impression that a much higher percentage of preschool children would have been offered this protection much earlier in life. Such a startling low figure for diphtheria immunization in this critical age group shows that this community and probably many such communities are not "adequately" protected against diphtheria. It is not surprising then that the incidence of reported diphtheria is relatively high in this age group.

In evaluating the occurrence of diphtheria in the inclusive age groups from 5 to 19 years of age, it is found that in Pennsylvania 40 per cent of the total cases in 1945 and 52 per cent of the cases in 1946 occurred in this school age group. The figures for the same age group in New York State are 52 per cent of cases in 1945 and 56 per cent of cases in 1946. In Massachusetts, 45 per cent of the total for 1945 and 57 per cent of the cases in 1946 occurred in the age groups 5 to 19 years. Approximately 50 per cent of the cases reported in California for the years 1945 and 1946 occurred in this group.

In a further breakdown of these figures it is found that the incidence of diphtheria in the 5 to 9 year group in all the reported states was 26 per cent in 1945 and 29 per cent in 1946. In the 10 to 14 year group the incidence of diphtheria was 12 per cent in 1945 and 14 per cent in 1946. In the 15 to 19 year group, the diphtheria incidence was 8 per cent in 1945 and 7 per cent in 1946. Considering the total percentage in the age group from 10 to 19 years of age we find that 20 per cent of the cases reported in 1945, and 21 per cent of the total in 1946, occurred in this class.

From these figures it becomes obvious that diphtheria can no longer be considered a disease of infancy and childhood alone. Such statistics bear out the conclusions of an editorial in the *Journal* of the American Medical Association[4] which concluded that diphtheria was increasing and that there was a tendency for the disease to become relatively more prevalent among the older age groups. It appears that our thinking regarding this disease will have to be revised, as well as our evaluation of the duration of diphtheria immunity. If a large per cent of adults are now susceptible, it must be assumed that they must never have been immunized, or if previously immunized, they must have lost their immunity. Consequently, one who thinks of diphtheria as a childhood disease may entirely miss the diagnosis in the adult unless facts regarding this disease are appreciated.

With this thought in mind, it was decided to evaluate the duration of immunity in a representative group of children who had been immunized artificially some years previously. For this program, Schick tests were offered, on a voluntary basis to the junior and senior high school students in the York City schools. These pupils had been pre-

viously immunized to diphtheria in either the preschool years or in the grade school immunizing program conducted yearly. The group tested included the seventh, eighth, and ninth grades in the junior high schools and the tenth, eleventh, and twelfth grades in the senior high schools. The age groups corresponding approximately to 12 and 14 years for the junior high school students, and 15 to 18 years for the senior high school students. In the group tested, an interval of 5 to 12 years had elapsed since the original diphtheria immunization, this depending upon the age and the grade of the individual tested. The results of the program are outlined in Tables 2 and 3.

TABLE 2

Schick Tests Among Junior High School Pupils

Grade	*Total Tested*	*Schick-negative*	*Schick-positive*	*Per cent Positive*
Seventh	414	355	59	14
Eighth	413	334	79	19
Ninth	423	316	107	25
Totals	1,250	1,005	245	20

TABLE 3

Schick Tests Among Senior High School Pupils

Grade	*Total Tested*	*Schick-negative*	*Schick-positive*	*Per cent Positive*
Tenth	308	245	63	20
Eleventh	393	322	71	18
Twelfth	418	348	70	17
Totals	1,119	915	204	18

Some of the teachers in the various grades wished to be tested, although this was not a scheduled portion of the program. However, the results of the Schick tests among the teachers revealed such a high percentage of reactors that the results of the survey are recorded as a by-product of the pupil survey (Table 4).

TABLE 4

Schick Testing Among Teachers

Number Tested	*Number Negative*	*Number Positive*	*Per cent Positive*
43	21	22	51

The results of this survey indicate that a relatively high percentage of pupils in the junior and senior high schools have lost their immunity to diphtheria. An average of 20 per cent were Schick-positive among the 1,250 junior high school pupils tested and an average of 18 per cent of 1,119 senior high school pupils. All pupils with a positive reaction were given a "booster" dose of 0.5 ml. of alum-precipitated toxoid. No untoward reactions were encountered among the 449 pupils given this stimulating dose. A few pupils developed some soreness and redness at the site of injection for a day or so, but beyond that there were no other reactions.

While it is well known that adults do not tolerate alum-precipitated toxoid very well, the dose of 0.5 ml. can be considered a safe dosage in this particular age group. A much smaller dosage was administered to a few of the teachers who had a Schick-positive reaction. A dose of 0.1 ml. was administered and 2 teachers had a local as well as a generalized reaction. The local reaction showed redness and swelling at the sight of inoculation and the systemic reaction consisted of chills, fever, headache, and weakness which incapacitated for a day or two.

DISCUSSION

While Schick testing may be questioned as an inadequate measure of diphtheria immunity, it is still the most effective measure from the standpoint of ease of administration in any mass testing. It is generally conceded that an individual with 1/250 units or more of antitoxin per milliliter of blood will have a negative Schick test. In testing this group 0.1 ml. of the Schick testing toxin was injected into the skin of the

forearm and the readings were taken just one week later. A tuberculin syringe was used for accurate measure of the dosage and a platinum-iridium needle used since it could be flamed between each test to protect against infection in the testing. By reading the results of the Schick test one week after the initial test dose it was felt that false or pseudo-positive were less likely to be included. It was found that many pupils developed a slight local reaction at the site of the Schick test which persisted for 24 to 48 hours and then faded away. A positive Schick test persisted with some discoloration and desquamation at the site of the original test.

The results found in this group testing compare favorably with other reports in the medical literature. Bullowa[5] found that only 76 per cent of patients admitted to Willard Parker Hospital were effectively immunized by current routine procedures; 24 per cent of 200 previously immunized patients admitted for diseases other than diphtheria were found to be Schick-positive. Karelitz[6] found that of 1,283 persons tested among Army personnel, 28.6 per cent were found to have a positive Schick test. Nevius[7] reported on the study of 72 immunized children who were Schick-negative 1 year after the initial inoculation but who again were tested at the end of 5 years. Only 58 of the 72 children were still Schick-negative or 80 per cent of the group studied. Lyon and Mitchell[8] reporting on the results of Dick and Schick tests in children previously immunized, found that Schick reactions in children of school age became positive at the rate of about 13 per cent after 1 year, and 16 per cent after 2 years.

Schwartz and Janey[9] found that 22 per cent of 145 children tested reverted from a negative to a positive Schick reaction 6 to 7 years following the administration of toxoid. Bundesen, Fishbein, and White[10] found reversals in Schick tests in various classified groups ranging from 6.4 per cent to 18.9 per cent. They felt that the present type of inoculations being used throughout the United States could not be relied upon to produce permanent immunity. Schwartz[11] found 16 per cent of a group of children tested 3 to 5 years following diphtheria immunization were Schick-positive. For a group receiving toxin-antitoxin initially and retested 8 to 10 years later, 26 per cent were Schick-positive. For another group receiving initially 2 doses of toxoid, retesting 4 to 10 years later revealed the fact that 22 per cent had lost their immunity. In all, for 308 cases retested there was a loss of immunity in 20.8 per cent in from 3 to 10 years following the initial immunization.

An accumulation of such statistics in the medical literature tends to confirm the impression that diphtheria immunity is not a life-long immunity. Therefore, in order to protect susceptible children as well as adults, booster doses of diphtheria immunizing agents must be employed to protect a greater per cent of the general population. Certainly this procedure should be used immediately following any outbreak of diphtheria in a community. It is apparent from our studies that approximately 20 per cent of individuals immunized as children lose their immunity by the time they enter junior high school.

SUMMARY AND CONCLUSION

1. A review of the morbidity reports from the health departments of Pennsylvania, New York, Massachusetts, and California for a 2 year period reveals the fact that no age group is immune to diphtheria.

2. From these figures it becomes obvious that diphtheria cannot be considered a disease of infancy and childhood alone, but may occur at any age.

3. In a Schick testing program con-

ducted in three junior high schools and in a large senior high school in York, Pa., of previously immunized pupils it was found that 20 per cent of 1,250 pupils in junior high and 18 per cent of 1,119 pupils in senior high had a positive Schick test.

4. Booster doses of 0.5 ml. of diphtheria toxoid were administered to those found positive. This dosage was well tolerated by this school age group.

5. Loss of diphtheria immunity, as measured by the Schick test, compares favorably with other reported figures published in the medical literature.

6. Diphtheria immunity is certainly not a lifelong protection and approximately 20 per cent of individuals immunized as children will require a "booster" dose of toxoid to protect them adequately as adults.

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NOTE: Grateful acknowledgment is made to the school nurses and the health nurses for their aid in the collection of statistical data and in the actual testing program.

Mental Health Training Grants

Late in July the Federal Security Agency made public a list of institutions to which federal grants have been made for stipends to postgraduate students training in psychiatry. It includes 21 institutions in 13 states and the District of Columbia.

These grants go to universities, hospitals, and clinics to support their training programs. The list of institutions receiving stipend grants, together with the address and head of the department can be secured by prospective applicants from Federal Security Agency, Public Health Service, Mental Hygiene Division, Washington, D. C.

The Relationship of Training, Sanitation Personnel, and Environmental Control

A Philosophical Approach

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SANITATION: What is the job? How is it done? Who does it? How much and what kind of training is needed? Materials for an approach to these questions have been drawn from the ideas of many persons. A list of basic disciplines was prepared by Dean Gordon Fair 10 years ago. Many engineers, sanitarians, and others in teaching and field positions have contributed.*

It has been necessary to use some subjective material for the sake of development of the approach. However, this, in itself points out the need of objective study. (Sound research to obtain objective data.)

FACTORS TO BE RELATED

Examine Chart 1, Integration of Training, Sanitation Personnel and Environmental Control. Look first at the Components of Environmental Sanitation. Controls are based on the factors of air hygiene; adequate and safe water supply; liquid and solid waste disposal; soil hygiene; food sanitation, including milk; control of insect and animal vectors of disease; and control of physical facilities of the living and working environment.

Look next at the Integrals of Knowledge. Basic knowledge of the chemical, physical, biological, and social sciences is required for efficient performance of work involving any one of the components of environmental sanitation.

Now look at the Disciplines. These are the basic disciplines of knowledge and are not to be confused with applications. Fair agreement on the disciplines prevails. The degree of use of disciplines does not enter into consideration at this point. It is sufficient to determine that as fundamentals they are or are not needed in carrying on work involving the components of environmental sanitation.

Between knowledge and the application of knowledge stands the individual who is expected to work in some capacity on environmental control. This individual must have some degree of Aptitude and Ability for his work. He must have certain specific intellectual and personality characteristics, certain physical ability, and certain skill to be able to carry on his work successfully.

The character of the work and the individual responsibilities for successful performance must be determined by an evaluation of the job to be done. An evaluation of a specific position must consider field of work, responsibility, supervision, professional activities, and

* Constructive criticisms of a draft prepared October, 1947, and numerous discussions with the writer.

CHART 1

An Integration of Training, Sanitation Personnel, and Environmental Control

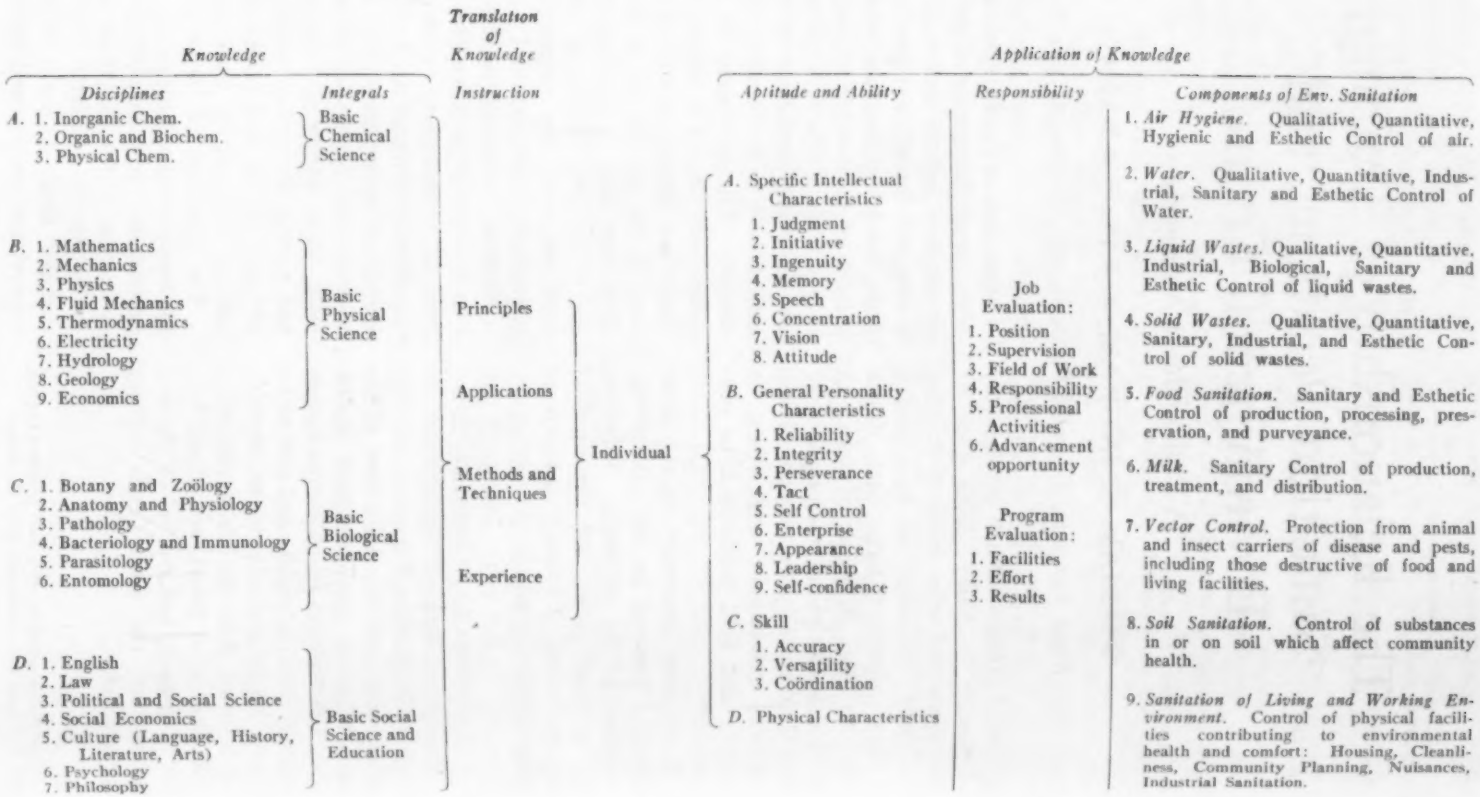

CHART 2

Position Requirements

Responsibility Level		*Knowledge Required*	
1. Field Man (under Immediate Supervision)	Technical	High school and Techniques.	1. *A. Specific Intellectual Characteristics:* Memory, Speech Concentration, Attitude. *B. General Personality Characteristics:* Reliability, Integrity, Self-control, Appearance. *C. Skill:* Accuracy. *D. Physical Characteristics.*
2. Field Man (under General Supervision)	Subprofessional	2 yr. College or Technical Institute. Selected Principles, Basic Science, Education and Techniques.	2. *A. Specific Intellectual Characteristics:* Memory, Speech, Concentration, Attitude, Some Judgment, Some Initiative, Some Ingenuity. *B. General Personality Characteristics:* Reliability, Integrity, Self-control. Appearance, Perseverance, Tact, Some Enterprise, Some Confidence. *C. Skill:* Accuracy, Versatility *D. Physical Characteristics.*
3. Supervisor (under Administrative Supervision)	Professional	4 yr. College. Principles, Selected Applications, Selected Methods, Techniques, Selected Experience.	3. *A. Specific Intellectual Characteristics:* Judgment, Initiative, Ingenuity, Memory, Speech, Concentration, Vision, Attitude. *B. General Personality Characteristics:* Reliability, Integrity, Perseverance, Tact, Self-control, Enterprise, Confidence, Appearance, Some Leadership. *C. Skill:* Accuracy, Versatility, Coördination. *D. Physical Characteristics.*
4. Supervisor (under close direction)	Professional	College Degree, Graduate Work, Principles, Selected Applications, Selected Methods, Techniques, Selected Experience.	4. *A. Specific Intellectual Characteristics:* Judgment, Initiative, Ingenuity, Memory, Speech, Concentration, Vision, Attitude. *B. General Personality Characteristics:* Reliability, Integrity, Perseverance, Tact, Self-control, Enterprise, Confidence, Appearance, Leadership. *C. Skill:* Accuracy Versatility, Coördination. *D. Physical Characteristics.*
5. Administrator (under general direction)	Professional	Graduate Degree, Principles, Applications, Methods, Techniques, Special Experience.	5. *A. Specific Intellectual Characteristics:* Judgment, Initiative, Ingenuity, Memory, Speech, Concentration, Vision, Attitude. *B. General Personality Characteristics:* Reliability, Integrity, Perseverance, Tact, Self-control, Enterprise, Confidence, Appearance, Leadership. *C. Skill:* Accuracy, Versatility, Coördination. *D. Physical Characteristics.*
6. Administrator (under administrative direction)	Professional	Graduate Degree, Broad knowledge, Principles, Applications, Methods, Techniques, Broad Experience.	6. *A. Specific Intellectual Characteristics:* Judgment, Initiative, Ingenuity, Memory, Speech, Concentration, Vision, Attitude. *B. General Personality Characteristics:* Reliability, Integrity, Perseverance, Tact, Self-control, Enterprise, Confidence, Appearance, Leadership. *C. Skill:* Accuracy, Versatility, Coördination. *D. Physical Characteristics.*

promotional opportunities. Subject to limitations of aptitude, ability, and responsibility the individual applies his knowledge to one or more of the components of environmental sanitation along coördinated, integrated lines. His knowledge is obtained through instruction gained academically and through in-service training. It is mellowed, seasoned, and supplemented by experience.

Translation of knowledge is accomplished by instruction in principles, applications, and methods or techniques.

JOB REQUIREMENTS

Turn now to Chart 2, Position Requirements. Observe the Responsibility Levels. There are various combinations of responsibility in environmental control work, but even so some fundamental classifications can be expressed according to the degree and kind of supervision. These classifications form the basis for establishing 3 directional levels and 3 supervisional levels of responsibility generally acceptable to personnel officers. The levels may also be grouped in professional terms keyed to the caliber of work expected from the individual. Thus, the last 4 grades are professional while the first is technical and the second is sub-professional.

The knowledge required is stated generally, because there is insufficient objective information available to correlate Knowledge requirements to Job Evaluation. One sees that at this point there is a necessity for an evaluation of programs and jobs which will lead to a sound determination of the kind and degree of instruction that is required for a given position.

TRAINING

Study Chart 3, Translation of Knowledge. Under the headings of Principles, Applications, and Methods and Techniques are listed details of the Disciplines of Knowledge which constitute the training basis for sanitation personnel. It will be apparent that these still make no reference to an actual curriculum of teaching. Curricula should be established by specific academic institutions in keeping with the teaching facilities of such institutions and in accordance with the degree of understanding of the relationship between required knowledge and field practice utilizing that knowledge. The following should be noted: Principles acquaint the student with the fundamentals of the subject matter; Applications, with the means by which one or more principles are combined and utilized; Methods, with the manner in which one or more principles are applied; and, Techniques, with the style of doing a specified task.

Techniques can be taught with minimum background knowledge of principles and applications and lend themselves to in-service training or special short courses. Some Methods can also be taught with minimal supplementary explanation of principles, but, in the main, presume a wider background of knowledge than do techniques. Applications cannot be taught without concurrent and in many cases prerequisite knowledge of the principles involved. The teaching of principles and applications using carefully built foundations of instruction is limited almost completely to academic institutions. I would add that the teaching of complex methods involving several principles such as those listed under physical science is limited to academic institutions whenever thorough understanding is the objective. There is a wide gap between thorough understanding and the familiarity achieved in short training courses. In general, instruction can best be given in universities and in university sponsored field training.

The chart, Translation of Knowledge, can be used as a templet:

1. To explore the bases of knowledge to which the individual has been exposed.

CHART 3

Translation of Knowledge

Primary Classification	*Principles*	*Applications*	*Methods and Technics*
Chemical	General Chem. Organic Chem. Physiological Chem. Physical Chem.	Qual. Analysis Quant. Analysis Toxicology Sanitary Chem. Food Technology Industrial Chem.	Chem. laboratory procedures Reporting of results of field and laboratory analyses
Physical	Algebra Trigonometry Calculus Statistics Mechanics Fluid Mechanics Physics Thermodynamics Electricity Hydrology Geology Economics Sonics	Graphics Surveying Analytical Geometry Descriptive Geometry Mech. of Materials Materials Analysis Analysis of Stresses Design of Water Systems Sewerage Systems Structures Ventilating Systems Lighting Systems Heating Systems Irrigation and Drainage Systems Ground Water Geology Eng. Economics Applied Mechanics Flow of Gases Fluids Vapor Metallurgy Illumination Meteorology Statistical Analysis	Construction methods Reporting of result of field studies Operation of physical facilities Treatment methods Water Liquid Wastes Solid Wastes Air Pollution Investigation of physical facilities
Biological	Botany Zoölogy Anatomy Physiology Pathology Bacteriology Virology Parasitology Entomology	Epidemiology Biometry Physiological Hygiene San. and Med. Bact. San. and Med. Entomology Limnology Mycology Immunology Ecology	Biological laboratory procedures Vector control methods Reporting of data obtained from field and laboratory Field investigation of biological factors of disease
Social and Cultural	English Law Political Science Social Science Language History Literature Arts Psychology Philosophy Economics	Composition Business Law Public Health Law Administration Speech Applied Psychology Economics Logic	Administration Public Health Adminis. Public Speaking Management Education

2. To serve as a specific guide to the kind and degree of knowledge prerequisite to a given professional specialty.

3. To aid the graduate who has acquired some experience and an understanding of his knowledge deficiencies in the selection of graduate courses of study that will support his professional inclinations.

4. To provide vocational counselors and advisory professors in universities a positive guide that will assure both counselor and student a balanced building of basic knowledge with proper emphasis on special professional inclinations.

5. To guide those building curricula in the selection of courses which will qualify students for the responsibilities that will be assumed in actual practice.

6. To provide a positive guide to those who have responsibility for determining accreditation of sanitary engineering undergraduate and graduate curricula.

7. To guide personnel officers in proper review of a candidate's academic ability to perform in designated positions.

8. To provide a basis of rubrics on which valid written examination material may be prepared for specific examinations.

Selective templets could be developed for every occupation dealing with environment. Certain principles and applications common to all would be the foundation for various combinations of training. Today the only means of obtaining the several combinations is through difficult and often accidentally acquired academic instruction coupled with years of experience. Would it not be better to arrange facilities so that orderly increments of guided instruction could be available to the student who seeks opportunities for moving forward to levels of professional responsibility compatible with his personal and intellectual characteristics?

University training can be obtained in stages, such as 2 years of junior college or lower division work, 2 years of upper division undergraduate work, and 1 or more years of postgraduate work. Experience may be gained between any of the above stages or during vacations. It is demonstrable, subjectively, that with a higher level of initial education to which nothing but experience is added, the time interval required to reach the higher levels of responsibility is markedly less. It is also demonstrable that in general, there are limits of rise in responsibility for those with fewer than 4 years of university education. It is exceptional to obtain adequate knowledge of the required disciplines in less academic time. There are indications that even individuals with 5 years of academic education may strike maximum professional levels below those ultimately open to persons with 6 years of education and broad experience.

COMMENT

Visualize, if you will, the templets which might be constructed for these environmental control positions: Consulting Sanitary Engineer, Municipal Engineer, Public Health Engineer, Water Supply, Sewage Disposal or other Sanitary Engineer Specialist, Industrial Hygiene Engineer, Sanitarian Supervisor, General Sanitarian, Sanitation Aide, Municipal Utility Superintendent, Water Plant Operator, Sewage Plant Operator. Perhaps there are others I have neglected to mention. Couple these with programs of environmental sanitation which involve one or more of the components of environmental control. Recognize that there are jobs of many descriptions and levels of responsibility and return now and review the chart, Integration of Training, Sanitation Personnel, and Environmental Control in the light of the foregoing explanation.

It should be apparent that there is much to be done to consolidate objective information and to accelerate action on the particulars of (1) Program evaluation, (2) Job evaluation, and (3) Training. At least two major lines of action ought to be followed if fundamental progress is to be made: (1) Critical investigation and demonstration of such basic factors of sanitation administration practice as job evaluation and program evaluation; (2) Research, consultation and advice in training and education for personnel to be employed on sanitation work, including the establishment of professional concepts encompassing the entire series of functions within the scope of environmental sanitation.

Sanitation: What is the job? How is it done? Who does it? How much and what kind of training is needed? Do these questions have answers?

Medical Care Plans for Industrial Workers and Their Relationship to Public Health Programs

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THE war and post-war years have seen a great expansion of interest in health and welfare programs for industrial workers. Major negotiations between labor and management have hinged on the provision of various types of group insurance programs, most of which bear some relationship to the provision of medical services. Public health agencies have had little relationship to this entire movement, it being regarded as an aspect of collective bargaining—a matter between employers and employees. Frank appraisal of the health problems of industrial workers, however, must lead to the conclusion that public health agencies have a vital concern with the problems of industrial medical care.

The most elementary basis for this concern devolves upon an analysis of the composition of illness or absenteeism in industry. For if public health and particularly industrial hygiene is concerned with the health of industrial workers, we obviously must analyze how much illness may be controlled by preventive activities in the factory and how much requires other approaches.

COMPOSITION OF INDUSTRIAL ILLNESS

In 1938, Newquist[1] demonstrated a fact that many had suspected for a long time: "The average worker loses 15 times as much time from non-industrial injuries and illnesses as he does from industrial injuries." Even when occupational diseases are included, disabilities from "industrial" causes appear to account for only 6.3 per cent of total absenteeism from illness and injury in industry.

Since the distinction between occupational and non-occupational illness depends largely on compensation records, it has been claimed that the concept of occupational origin of illness is restricted by the relatively narrow definitions of workmen's compensation law. Many conditions now widely regarded as occupational in origin—for example, tuberculosis in miners or pneumonia in steel workers—were not so regarded a few years ago or are still excluded from compensability in some states. By the same token, many conditions now regarded as of non-occupational origin may eventually be traced to working conditions. There is surely some valid-

ity, therefore, to the claim that working conditions may have a greater influence on health than present absenteeism records appear to indicate.

It is probably wise to conclude, with Stern,[2] that the worker's health is "the result of a complex causal pattern involving not only inferior living conditions associated with low income, but also the working conditions of persons in the low income categories. Fatigue and excessive physical and mental tensions on the job, as well as exposure to hazardous materials, may sometimes lead not directly to industrial disability now compensable under the law, but may lower the powers of resistance of workers to communicable diseases and may aggravate chronic diseases." Much disability and death not now regarded as occupational, therefore, as well as that which is strictly occupational, may be reduced by effective programs of industrial hygiene, in the preventive sense.

The fact remains that the great bulk of illness and injury among industrial workers—probably close to 90 per cent in terms of days lost—cannot be regarded as reducible by a program of preventive services in the factory.[3] Beyond the inroads on the problem that can be made by general public health activity in the community, it is evident that some approach to the better organization of medical care for non-occupational iliness and injury is necessary.

Although not many public health agencies have in the past recognized this, labor and management groups have seen it perhaps more clearly than they have seen the value of preventive efforts. Absenteeism due to illness represents a financial loss, not to mention the human suffering, to workers and their families. To management it represents economic losses and complications in the production process.[4] It is natural, therefore, that both labor and management in the United States should have been active for more than a century in setting up various programs for organizing the costs of, or the actual provision of, medical services.

DEVELOPMENT OF MEDICAL CARE PROGRAMS FOR INDUSTRIAL WORKERS

The development of today's widespread interest in industrial medical care stems from a background of two main streams of activity: (a) efforts to indemnify workers for wage loss in illness and for the costs of medical services; (b) efforts to provide direct medical services as needed. Both types of activity have been sponsored separately by labor or management and jointly by both. Both types still operate side by side, although the trend, as we shall see, appears toward the cash indemnification type of program with joint labor-management administration.

Indemnification Programs—The earliest efforts to cushion the risk of sickness were made by workers themselves in the late 18th and early 19th centuries. They first took the form of mutual aid societies which paid cash benefits to the family, on the death of the breadwinner, for burial expenses and for general aid. Later cash benefits were paid in the event of prolonged sickness. The historic origin of these organizations is found in England's "friendly societies" or Germany's workmen's orders, although somewhat similar patterns are found even in antiquity.[5] Some of these benevolent associations, like the Free African Society, later became insurance companies.[6] Others gradually assumed "industrial" functions, like collective bargaining for wages and hours, and became labor unions in the current sense.[7]

Whether mutual aid societies became departments of unions or continued independently, their principal function became cash indemnification of workers for wage loss during periods of temporary disability due to sickness or injury. The course of these "mutual sick benefit associations" or the "sick bene-

fit funds" of unions was stormy. Rarely based on sound actuarial principles, they frequently got into financial difficulties.[8] In the interest of improved personnel relations, employers gradually began to sponsor them, offering clerical assistance or even partial assumption of the risk to induce employees to join. Employers seldom made significant financial contributions, however, and workers frequently refrained from joining on suspicion of management's objectives.[9]

About 1912 private insurance companies entered the field of group temporary disability insurance.[10] They were able to assume risks that individual employers did not wish to carry and could save the employer the administrative duties involved in operating such programs. As a result, commercial group insurance gradually came to replace both the mutual sick benefit associations and union sick benefit funds. From about the 1930's, commercial group policies began to indemnify against the major professional costs in serious illness, like hospital and surgical expenses, as well as for wage loss. The larger share of premiums was typically paid by the workers until the second World War when the relatively tight labor market, combined with the government wage stabilization program, put labor in a favorable position to make special claims on management. In lieu of offering wage increases, therefore, management has come to assume a major share of the cost of these group insurance policies today.[11]

Direct Service Programs—Concurrently with this development was another stream of activity in which organized systems of medical service were made directly available to groups of workers. In the mid-nineteenth century, when railroads were being cut through to the West, timberlands were being cut into, or mines were being opened, medical services were needed for the isolated groups of men doing this work. Cash benefits would do little good under such circumstances; doctors and hospitals were the first need. Periodic wage deductions were an obvious device for assuring a fund to pay physicians and support facilities. Typically, medical personnel were on salary and the workers were entitled to service, as needed, without paying fees.[12]

In the early 20th century, this pattern of organized medical care plans spread to many parts of the country, although it has been set up chiefly in heavy industries. While financed in most instances entirely by employees, through wage deductions, the administration has usually been through management. One of the best known of these programs—and one of the few financed entirely by management—is at the Endicott-Johnson Shoe Corporation, Binghamton, N. Y. Among more recently developed medical service plans, perhaps the best known are the various Permanente Foundations for workers in the Kaiser shipyards on the West Coast.[13] The bituminous coal agreement of 1946 elevated the entire question of so-called "contract medical practice" in the mine fields to a question of national concern. As a result of an extensive survey of the bituminous coal industry,[14] plans are now under way to reorganize medical services for some 400,000 miners and their dependents on the basis of employer contributions to a trust fund.

A further development in direct service plans has been the effort, here and there, of organized labor itself to provide medical care for its own ranks. The first of such projects was undertaken in 1916 by the International Ladies' Garment Workers Union in New York City, with the establishment of the Union Health Center, still operating and now offering ambulatory medical care to union members.[15] Another was set up about 1940 by the United Auto-

mobile Workers in Detroit for limited diagnostic service. The most comprehensive of such plans has recently been launched in St. Louis under the auspices of the United Retail, Wholesale and Department Store Employees. Here medical personnel on full-time or part-time salary render complete care to union members and their dependents in the Labor Health Institute. Unlike other labor-sponsored plans, this one is financed entirely by management.[16]

A final type of medical service plan providing benefits for industrial workers may be mentioned. This is the type of prepayment plan developed by groups outside of industry, controlled by neither labor nor management, in which workers may be enrolled along with other groups. Most important of this type of program have been the plans for hospitalization insurance starting in 1929 and now known generally by the Blue Cross emblem. In some states, like Michigan or California, the largest share of membership in these plans is made up of industrial workers. Still more recently, the medical societies have organized prepayment plans, typically for surgical services in the hospital, in which many industrial groups are enrolled. New York City has become the site of a unique prepayment plan, sponsored by many community agencies and rendering service through group practice units, in which a number of labor unions are enrolling their members.[17]

PRESENT COVERAGE

With these various streams of development, the present picture of organized health services in industry is quite complex. Expressions of the several different lines of organized action are all to be found today. There are still some mutual aid associations indemnifying workers for wage-loss and medical expenses. There are abundant group insurance policies for temporary disability and medical costs carried by commercial companies. There are many organized medical services offering direct care under the sponsorship of management and a few under labor control. There are numerous non-industrial medical care prepayment plans in which factory groups happen to be enrolled.

It is difficult to give exact statistical data on the coverage of the various types of plans reviewed above. Much of the information on one type of coverage overlaps with data on other types, so that a reliable total figure cannot be cited. The most recent studies, nevertheless, yield the following information: In 1945 there were about 115 organizations providing direct medical service of relatively comprehensive scope to about 1.5 million workers and dependents.[18] Cutting partly across the lines of these were the 600 mutual benefit associations providing cash indemnification for temporary disability and usually for surgical and hospital expenses to about 1.5 million employees.[19]

From the point of view of the present rate of growth, the most significant type of industrial program today is the cash indemnification plan under commercial insurance companies. By 1947, it was reported that 10,548,000 workers and dependents had indemnity protection for hospital costs, under such auspices; 7,916,000 had indemnity for surgical costs; and 615,000 had medical indemnity benefits in hospitalized illness.[20] (These figures cannot be added since there is considerable overlapping of the same persons in the different policies.) Many of the workers covered by these indemnity policies receive the protection as a result of "health and welfare" provisions in labor-management contracts, concluded through collective bargaining.[21] It is estimated that in 1947 some 4 million workers were encompassed under such health and welfare clauses.[22] These contracts usually provide for various combinations of group life insurance, accident and sick-

ness (weekly wage-loss indemnity) insurance, accidental death and dismemberment insurance, hospitalization expense insurance, surgical expense insurance, and sometimes medical (non-surgical) expense insurance.

Finally, there are the approximately 26,000,000 persons covered by Blue Cross group hospitalization and the 6,500,000 covered by medical society plans for surgical and obstetrical care as of January 1, 1947.[23] Very likely a majority of these represent employed workers, covered by virtue of their belonging to a factory group, but exactly how many cannot be stated.

EVALUATION

It is easy to understand why cash indemnification policies have pleased both labor and management and have grown rapidly. For one thing, they have meant indirect wage increases for labor, in so far as costs have been borne by management. From management's point of view they have promoted good personnel relations and they have been an agreeable form for allowing wage increases (since they do not constitute a raise in base pay, by which overtime rates are computed). From the point of view of both labor and management, they have been administratively simple, since most of the technical details are handled by the commercial carrier. There has been no organizational task involving delicate relationships with professional groups, hospitals, and other providers of service, as called for in the establishment of medical service programs of all types.

There is no question about the positive value of these group insurance programs. They have helped to cushion some of the heavy costs of catastrophic illness and to make it easier for the worker to obtain needed surgical and hospital care. The costs of protection have been considerably lower than for individual "health and accident" indemnity policies offered by commercial carriers. Still, certain questions have been raised about the entire indemnification pattern. Unlike the pattern of service plans (e.g., Blue Cross or many medical society plans), it does not assure the provision of services but rather gives a certain amount of cash to help defray costs. The services for which indemnification is offered are generally limited to the needs of serious illness, without protection for the costs of day-to-day home and office medical care, which has higher preventive value. Even in catastrophic illness, one study has shown that the average commercial policy indemnifies the worker for only about 50 per cent of the total charges incurred in his illness.[24] Analyses by Professor Blanchard of Columbia University, moreover, reveal that only 62 to 75 cents of the premium dollar are returned to the workers in the form of benefits.[25]

Despite these facts, group indemnity policies have undoubtedly been a step forward. The reluctance of both labor and management to embark on the organization of service plans has doubtless been, partly, because the issue has been narrowed often to a choice between indemnity insurance and that special type of service plan in which an organized staff of salaried medical personnel is employed. In industry, this has taken the form of debate concerning the extension of the usually accepted in-plant industrial medical service to include care for non-industrial illness. Opponents of "extended medical service," like Newquist and Hess, claim that "the purpose and license of industry is not to practise medicine. If for no other reason than a sense of fair competition, industry should go no further in the actual treatment of non-industrial injuries and illnesses than to give reasonable first aid and advice to those on duty."[26] Proponents like Wittmer or Lynch, however, state that "If the medical cost

for the treatment of occupational injury and disease is a proper charge against production, so also is the cost of the medical care for workers too sick to work, a proper charge against production, because workers prevented from working by sickness produce nothing for the profit of industry and nothing for themselves and their families . . . I recommend that industry generously and for profit arrange adequate medical care for the sick as well as the injured before compelled to do it, with the coöperation of organized medicine, without it if necessary." [27]

Labor has been far from enthusiastic about programs providing actual medical service for other reasons. As for company-operated plans with salaried personnel, there has been the usual objection to so-called paternalistic practices. Workers have frequently been reluctant to entrust their personal problems to doctors who are responsible directly to management. But even labor-sponsored medical care programs have been few and far between. The main reasons undoubtedly have been organizational. It is not easy for trade unions—preoccupied in the field of wages, hours, and working conditions—to take on the additional complex task of organizing medical service programs. If completely organized projects, with centralized health center facilities, are to be launched, large capital investments are usually necessary. There has sometimes been opposition to such enterprises from professional groups and hospital facilities have sometimes been closed to the plans. Even organization of simple prepayment plans, with payment of individual practitioners on a standard fee-for-service basis, has not been easy. Labor's chief participation in service plans has, therefore, been to sign up its members in the existing prepayment plans for hospitalized illness (Blue Cross and medical society plans). Much the greater participation, however, has been in group indemnification insurance with commercial carriers.

Although they are more difficult to set up, service plans undoubtedly have several advantages over indemnity plans, from both health and economic points of view. The American Hospital Association has recognized this in its formulation of basic policies regarding Blue Cross plans. Even when the scope of services is limited, the worker tends to be assured of the receipt of the service offered in time of need. (The limiting factor may be the availability of personnel or facilities in the area but not the system of payment.) There is considerably more opportunity in service plans to encourage preventive services and to stimulate high quality performance. Overall costs of medical care for the worker are more fully insured, since there is no question of supplemental expenses beyond an indemnified amount.

Among service plans there are various considerations that, in one instance, would make advantageous the establishment of a plan with fee payments to individual practitioners and, in another, the establishment of an organized group practice program with personnel on salary. That the latter pattern tends to be most economical has been demonstrated repeatedly; it is well known from the experience of welfare medical administrators,[28] of the farm labor health program,[29] and of industrial medical services.[30] The salaried pattern tends, of course, to be associated with loss of free choice of physician, which is regarded as important by some persons. In any case, the participation by both labor and management in the administration of plans gives assurance of maximum economy and health content. The ultimate effect of recent labor legislation on the management of health and welfare programs is not clear at this point.

It is of some interest that an estab-

lished management-controlled, direct-service, organized medical care program like that of the Southern Pacific Railroad has recently been brought under the collective bargaining agreement between the employees and operators of that enterprise.[31] The same has happened, in effect, to the coal mine programs. It appears as though labor groups which have had experience with direct service plans of some type tend to press for the extension of this pattern, while others are promoting cash indemnification programs.

RELATIONSHIP TO PUBLIC HEALTH

The very complexity of this entire field of health activity suggests its relationship to public health. Medical care problems, so charged with the difficulties of labor-management relationships, not to mention professional relationships, are urgently in need of the impartial guidance of a public agency skilled in health matters.

It is of some historical interest that almost the first official act of the then newly created Office of Industrial Hygiene and Sanitation of the U. S. Public Health Service in 1914 was to study the health of garment workers in New York City[32] and that a principal result of this was the establishment of the first direct-service union-sponsored medical care plan in the nation, referred to above. Issues today are much more complex. In no two communities and in no two plants are the problems exactly alike. The underlying fact is that both management and labor are today inclined to spend money on health and welfare provisions. The immediate question is: how can each available dollar be spent to bring the greatest health benefit to the worker? The answer to this question will almost necessarily provide an answer to the corollary question: what type of program will provide the best labor-management relations?—for the most effective and economical program should best serve the needs of both employer and employee.

Studies might be conducted by public health agencies to determine the results of different types of industrial medical care plans in their community—results in terms of volume of health services rendered, costs, absenteeism, working efficiency, quality of care, all the factors entering into a determination of the "health value per dollar." On the basis of such studies, practical advice could be offered to both labor and management groups concerning possible modification of their present practices or the best lines along which new programs might be organized. Such counsel, after all, is given every day with respect to in-plant industrial hygiene services. It will be more eagerly sought in medical care, simply because problems in this field today are felt by unions and management to be more pressing.

A medical care program of any one of the variety of possible patterns would complement a preventive program and in many ways make it more effective. Case finding efforts of an industrial hygiene service in the plant and of a health department outside the plant would be assured of better follow-up. The hernia detected in a preëmployment physical examination could be assured of prompt surgical correction or the diabetes discovered in a routine prenatal urinalysis could be put under prompt medical control. Likewise, in day-to-day medical service, conditions of special public health interest might be turned up and referred to the health agency. A medical care program would, moreover, strengthen the routine industrial hygiene services in a plant, which public health is eager to advance. The very operation of a plan for medical care will heighten the interest of both management and labor in effective in-plant preventive activities, if only in the in-

terest of economy in expenditures for treatment. Close contact between physicians in the industrial hygiene service and those rendering medical care will keep the latter conscious of the problems of occupational diseases, so often missed by isolated practitioners.

Participation in the planning of these programs should strengthen the general position of the health agency with management, labor, and professional groups. To management, the assistance offered can be of practical value in reducing absenteeism and making for a better satisfied work force; employers want advice in this field more than any other.[33] To labor, assistance in the development of programs for medical service to themselves and possibly their families is obviously appreciated. While there has been in the past some suspicion by labor toward the organization of medical services on their behalf, this attitude has doubtless been related to the total setting of labor-management relationships.[34] As organized labor has matured,[35] and as the approach of public bodies has changed, labor's attitudes have changed.[36] To professional societies trying hard to face the challenge of a better distribution of medical care, the impartial assistance of public health agencies can only be welcome. Relationships developed with all these groups—management, labor, and the professions—should pay dividends in the development of community support for the general program of the health department.

CONCLUSION

In the whole movement for improving the organization of medical care for the general population, there is no more important trend than that of industrial health plans. The largest component of our national population is made up of industrial workers and the largest number of persons now covered by any type of prepayment plan are in this class.[37] Whatever may develop in the way of community-wide medical care planning—local, state, or national—the patterns of organized service in industry will undoubtedly play an important part.

It is widely recognized that public health agencies face increased responsibilities in medical care administration in the years ahead. Acquiring a knowledge of the complex field of industrial health plans will stand them in good stead for this eventuality. Application of this knowledge to the pressing problems of industrial medical care in their own communities will enable them to render an invaluable public service today.

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"It is idle, of course, to minimize the towering difficulties that confront us or the heart-breaking frustrations through which we shall live in the years immediately ahead. But we must push toward the ultimate goal of world unity with iron determination and fanatical patience.

"We must believe in it against all discouragements, against all failures, against all betrayals. There is indeed nothing else we can do. For the long pull there is no alternative. Or rather, the only alternative involves a price in terms of cosmic disaster which, unless the world is overwhelmed by a Gargantuan madness, it will not consent to pay."—Raymond B. Fosdick, *Rockefeller Foundation—A Review for 1947.*

Community Resources for Health Education—How Well Are They Being Utilized in the School Program?*

Discussed by a Voluntary Agency Health Educator

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THE community approach is receiving a great deal of emphasis today in many fields of work, and those of us who are interested primarily in health education hear much about the desirability and values of community-wide health education. Certainly one essential step in the development of any such program is the utilization of community resources by the school and the continuous interaction between the school and the rest of the community—a bringing together of the school and the public, the two component parts of the total health education picture.

While there are some few who feel that the schools are separated from the rest of the community by a firm barrier, most of us recognize today that there are many community resources which the school may call upon to assist in the organization and development of its health program. The voluntary health agency is one which has particular contributions to make. Why then, we may ask, is it sometimes overlooked? Perhaps first of all, because the agency itself is at fault in not having made its services known. However, it is difficult to imagine an organization staffed with a trained health educator who has not had contact with the schools in the area and has not offered services, for one of the first functions of a qualified health educator working in any kind of agency should be to make herself and her agency's work known. It is easier to imagine this lack of contact between agency and school where no qualified health educator is employed.

Another reason why the voluntary agency is not used may be that the school, being an official agency, looks to the other official agencies for help and advice. More and more, however, schools are reaching out into the community and utilizing not only the official but also the voluntary agency which is today stepping up its educational program and increasing its service.

If we proceed on the premise that the voluntary agency and the school will meet for mutual benefit, we might consider the kind of contribution a voluntary agency is in a position to make. Unfortunately, many belittle this kind of organization as a resource to be utilized by the school, but this is perhaps unjustified and will be increasingly so as more voluntary agencies wake up, add trained health educators to their staffs, and subsequently improve their programs. Perhaps there *are* some small agencies which function in the school

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program only by channeling materials which may be used by the teachers in their classroom work, but many educators feel today that the growing and modernized voluntary agency has a much bigger job to do. Naturally, the amount of work it does will depend a great deal on the work the departments of education and health are already doing.

May I outline some of the ways in which the voluntary agency can be used as a resource by the school and mention those particularly which will enable the school to organize a total health program more rapidly and continue it more effectively than would perhaps otherwise be possible. These contributions are all of a practical nature since they have been tried by one voluntary agency or another.

1. Materials, of course, we recognize as a need in health education, not only to aid instruction and make it more "alive," but also to help inform teachers and administrators regarding the modern school health program in all its aspects. Teaching aids are not so available in health as in other subjects and many teachers turn to commercial materials. Several of our voluntary agencies now have teaching units, pupil materials, and various visual aids, which are sound, approved by educators, and useful. If teachers have not received such materials, they should request them. In addition to these materials, many voluntary organizations maintain libraries and loan folders which those associated with the school program may use in "self-education."

2. The voluntary agency may be utilized in a different way if the school wishes advice and consultation. Such service may be given personally by an agency educator trained in school or public health, or it may be brought in to the school from the outside. Local school departments, setting up or continuing school health programs, will wish to use such consultant service if they find it available. It may be the only service of its kind available to the school or it may supplement that given by the official agencies in health or in education. Such help may consist merely of aiding the classroom teacher in working up a lesson or a unit of work, or it may involve a greater share in the program through membership on committees concerned with the total program.

3. The location of a qualified teacher is one of the difficulties encountered in setting up health instruction at the junior and senior high school level, where there is usually specialized teaching. In large schools, the establishment of a health instruction program requires the services of a full-time teacher trained in this field. Yet it is not easy to find such a teacher, and less easy to create a place for her. The employment of a health education teacher by the voluntary agency on a demonstration basis for a specified time and purpose can do much to "sell" her to the school itself and to the school committee who will ultimately decide whether or not she is a necessary addition. In smaller systems where a teacher already employed will assume health instruction as part of her teaching load, there is need not for a demonstration but rather for helping this teacher obtain additional training in health on a full- or part-time basis.

4. Teacher training has been and will be, of course, an interest of the voluntary agency. For some time, many have provided scholarships and fellowships. Now that school health programs are developing more widely throughout the country, our teacher-training institutions, both public and private, should consider their own health programs and offer more adequate pre-service training in health to teachers of all levels. Stimulating such institutions to do this and assisting them

in doing it well are functions of the health agency.

One of the basic lacks in teacher education is manifested by the new teacher's limited knowledge about the district or area where she teaches and about the community agencies and services. This lack is particularly felt by the teacher of health. If agencies can interest more of our teachers' colleges in training teachers to know the community, to understand and use what it offers—to have a community point of view—then our health instruction will profit immeasurably.

In this connection, the organization for which I work has been assisting one of the local teacher-education institutions during the past year by providing community field experience to teachers training in health education. This familiarizes the teacher with the health education program outside the school, acquainting her with agencies and groups which function in health education, and may be of value to her as a classroom teacher.

5. In addition to pre-service education, the organization of in-service training programs for personnel participating in school health work is also important. Workshops, informal conferences, institutes, and the like may be organized, not only locally but also on a regional and state basis. This provides opportunity for various school personnel to meet together and study with specialists, or to work in small groups on problems associated with pre-service and in-service training, or on the organization and continuation of a school health program. Voluntary agencies may be a stimulating force in helping to set up such study groups, their workers may participate as staff members, or they may aid financially. Tuberculosis associations have frequently worked actively in the school program in this manner.

6. Not the least contribution may consist in providing students themselves with opportunities for active participation in the work of a community organization. This kind of personal experience can help to bring about an understanding of the functions of a voluntary health agency and at the same time develop an appreciation of the citizen's responsibility. The voluntary agency has been utilized too little in this manner.

While the community agency may be used mainly to enrich and expand the health instruction program, it can assist in other important phases of school health. Perhaps the greatest service in this respect will be through helping with training courses and possibly demonstrations.

Not to be omitted, is the aid the voluntary agency health educator may give in assisting the school in the education of parents, committees, and legislators. Health educators interested in the total community programs should have an area organized and ready for action in health education. This continuing organization of people and agencies may well be utilized by the school in interpreting its health work to parents and others.

The above are merely some of the ways in which the voluntary agency may aid the schools in their development in school health—the list is not at all inclusive. If you are a community health educator, you may be thinking of other ways in which you have served your schools; if you are a teacher or administrator you may be concerned with other types of service you would expect from your local health agency.

No one voluntary agency will perhaps be able to give all of the services we have listed, but each agency should give such help to the schools in whole or in part. The amount of service will vary, of course, with the size of the budget and staff of the community or-

ganization, and it will differ also according to the needs of the schools, the stage of development of the school program, and the kind and quality of service available from other sources. The voluntary agency should not duplicate contributions of the official agencies interested in health and education; they should, rather, supplement and enrich and, on occasion, demonstrate for a specified period.

Flexibility should be the keynote of the voluntary agency's school program. The type of service rendered should vary as need requires. It should change as the schools grow and expand in health education and as they develop a more permanent health program.

Some voluntary agencies have wondered, at the local level, whether they should be interested actively today in school health, whether or not school work, having been a part of their past program, is any longer an essential feature today. Certainly any agency interested in the total community health should maintain an interest in school health, for it is a necessary, basic part of a purposeful and continuing total program. Without it, community health education has no real roots and our efforts can hardly produce lasting results. Accordingly, any voluntary agency health educator should be alert to the needs of the schools and should recognize the school phase of community health education as a most important part of her work.

You may feel that there should be a more actively interested voluntary agency in your city or town. May I say here that if your local agency is not appropriately staffed, if it does not render adequate service to your school, then awaken that agency to its responsibility. As a resident of any given community, it is your responsibility and mine to stimulate voluntary agencies to employ good leadership and perform the functions expected of them in the kind of health program accepted today.

The local voluntary agency most apt to have a health educator on its staff is the tuberculosis and health association, but there are several groups interested in and contributing to community health education and to school health as a part of it. While these latter groups may not employ specialists in health education at the local level, they may provide community resources for the school. These many agencies cannot all run in and out of the schools, as they will, with suggestions, ideas, and aids, separately and distinctly. There must be some coordination of effort between the groups endeavoring to serve the school. Integration of contributions of the several agencies may be simpler where the school program has leadership in the form of a health director. Perhaps a school health council could perform a real function in defining the needs of the school, locating community resources which can be of help, and arranging for the utilization of such resources in a sensible, efficient way.

In closing, I would like to emphasize the importance of the continuous interaction between school and community. Voluntary agencies outside the school have real contributions to make for the enrichment and growth of the developing school health program. They also bring to the school a knowledge of community health problems and facilities.

They *should* be used and *are* used by progressive schools which are today reaching beyond the school walls to the outside to an increasing degree. A close relationship between school and public education programs will enable us to achieve what is now our goal in health education—a well integrated program actively reaching all corners of our communities.

Community Resources for Health Education—How Well Are They Being Utilized in the School Program?*

Discussed by a Health Officer

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The Health Officer Looks at School Health

Since the time when the "Divide and Conquer" rule was applied to the problems of public health, the health officer has been faced with an increasingly complex mosaic made up of the many units into which his work has been divided. Indeed, so complex have been these divisions, and so specialized their fields, that the mosaic at times has lost its total meaning. The trained observer can note much intricacy of pattern indicative of frenzied activity. He can see that trained experts in tuberculosis and cancer have developed independent programs of community service, while he notes that even the problem of child health has been divided into the categories of infant, preschool, and school.

Of course, this division of services into specialties has been an essential step in our battle toward a healthier world. Public health has progressed a long way from the days when communicable disease and sanitation were its only fields of effort. The progress of sanitary science has made the services of numerous experts necessary to the health program, if this program is to discharge its duty adequately to the citizen. Nevertheless, it is encouraging that the present trend is toward coordination of all health effort, and it is the health officer who must accept the burden of this responsibility. It is up to him to see that every individual in the community is given an opportunity equal to his specific need, so that he may take advantage of modern progress in health during every stage of his life.

The health officer must recognize the preponderance of certain problems in particular age groups. He must be prepared to understand and utilize the health programs of other agencies, but he cannot ignore any large body of citizens because for a time they may seem temporarily beyond his immediate control. Such a group in some areas is composed of the school age children in the community. Regardless of which official agency, health or education, has been charged by law with the responsibility for school health, the health officer must accept the task of doing all within his power to integrate school health with the entire community health program which includes all age groups and problems.[1] He cannot ignore this opportunity to bring health knowledge to a member of virtually every family in his area, the chance to influence the personal health activities of the parents of tomorrow, and the last convenient opportunity to prevent or correct many future irremediable defects. He cannot throw his personal

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forces into the battle of preschool health without being concerned with the follow-up to his efforts which is part of the school health program.

It is, therefore, up to him to point out worth-while procedures to school administrators, to organize community health councils, to see that they have positive programs, and to make his facilities available to the school health programs. Naturally, the school administrator should coöperate in this work, should be eager to improve his health program, should seek active participation of his charges in community health activities. But whatever the extent of school authority, initiative, interest or coöperation, the fact remains that it is the fundamental responsibility of the health officer to exhaust all possibilities for furthering school health programs to the same degree that he accepts responsibility for those programs which may be more directly administered by him.

The Health Officer Looks at Health Education

Recently I read a symposium on health education in the *Journal*.[2] Most of the contributors stressed the fact that, in a democracy, health education is essential to secure good health practice and required public support for health programs. The difficulty with much of the health education effort today is that while attempting these goals it drives toward the specific. It makes us venereal disease conscious in February, it worries us about tuberculosis in December, and makes poliomyelitis seem like the world's greatest problem in January. Health departments mobilize for a huge diphtheria campaign in September and then train their big guns on some other program as soon as the desired effect is achieved.

Commercial advertisers have proved to us that it is the constant repetition rather than the brilliant campaign that achieves lasting results. Health officers have realized that while campaigns aimed at achieving specific ends are worth while, there is a far greater need for an organized, continuous, and consistent health education program which covers not only all phases of health but reaches all groups in the community. There appears little doubt that this organized program can be carried out successfully in the public schools of our nation.

Coöperative Efforts Between Schools and Health Departments

A. *Introduction*—Coöperative efforts between school administrator, health officer, and all community health agencies *now*, will minimize sales resistance to health in the future. Health resources in the community must be made an integral part of the school health education program, if the school is to participate in such an organized community plan.

The health officer who is cognizant of the major health problems facing his community is in the best position to point out to school authorities where specific efforts in health education might be made. He is one official whose program cannot become static, his syllabus and curriculum are always changing. School administrators should look to him for suggestions in regard to our changing health needs, and for assistance in periodically revamping health education curricula.

B. *A Sex Hygiene Program*—In a small southern village we once thought of carrying out a venereal disease survey in a Negro high school. Realizing that most of the Negro adolescents did not attend high school we still felt that it would be interesting to see how much venereal disease we could find in this school group. In order to simplify follow-up work we attempted to secure a list of all the sexual contacts from the pupils in advance of evidence of ill-

ness, since we felt the incidence of venereal disease would be high. To this end, all pupils were interviewed by a physician or nurse of their own sex and confidence was established so that such contacts were obtained as well as the usual venereal disease laboratory tests. Our results were at first unproductive. True, we elicited much evidence of promiscuity, but only 4 per cent had a venereal disease despite the fact that the Negro draftee incidence rate was 20 to 25 per cent. However, our efforts were soon to be rewarded. Impressed by the interest, personal attention, and knowledge they had received, these pupils became the health missionaries in their community. Soon many other young Negroes came to us for similar conferences. In all, over a dozen infectious cases of venereal disease were found and placed under treatment. The misinformation on sex hygiene which was apparent was turned over to a state supervising teacher who made plans to correct these errors by both organized and individual instruction. What began as a school survey turned into a community project for health education, a program of the greatest importance to all citizens in the area.

This is an instance where a routine health department service contributed to an educational program and pointed out the need for additional steps in school health education. It demonstrated that the health officer, who knows the health facts in his area and controls community health resources, may frequently indicate the need for specific school health programs, which in turn play their part in securing worth-while community health activity.

C. *Student Assistance at Clinics*—We need no longer look on the school itself as the boundary of learning. Health department clinics, the county tuberculosis hospital, the local health council, the health department office, and the voluntary health agencies are all working laboratories for health education. We have arranged for high school students to assist with tuberculosis and child health clinics. Each session was followed by a conference where students discussed their observations and gave us the opportunity to stress the major health principles involved.[3] Student assistance is an invaluable experience; the "learn through doing" principle is put into practice and youngsters may learn through concrete, purposeful activity which is far more meaningful than the textbook lesson. Such student help should not be looked upon merely as a youngster's contribution to community health, the health officer in turn must be available to answer questions, teach and lead discussions. Here is an unlimited opportunity to teach children to differentiate between good and bad health information — to lead them toward a lifetime habit of seeking approved sources for facts about health. If he can learn about his community health agencies, if he can understand what they are accomplishing, he will be in a better position to utilize their available health facilities for himself, and at the same time, he will recognize the need for supporting such activities.

D. *Leadership Training Institutes*—Frequently, the health officer may find ways of working through classroom routines to improve school health. In one county, we carried out health institutes[3, 4] aimed at giving the parents and teachers the facts they needed to bring them up to date on the latest developments in the health field. Each session of these leadership training programs was preceded by several short talks given by members of the group regarding the utilization in their own schools and communities of the material covered during the preceding month. This resulted in better integration of health with other teaching and a greater appreciation of the common defects of school children and the need for their

correction. Where defect correction programs exist the teacher can be a potent force through her frequent contact with parents and the fact that she is in a position to see that poor academic work is often closely related to defects.

One of the high school principals in this same county participated in the U. S. Public Health Service malaria-training institute which was held in Memphis. Upon his return, he made his newly gained knowledge available to many of the schools and aided in setting up worth-while community projects in draining, oiling and spraying which became part of the intramural and extramural duties of the school children. These projects were of greater value to the practical teaching of malaria control than the preceding years of classroom recitation.

E. *A Coördinated School and Health Department Nutrition Program*—In the region concerned, it was discovered that there existed a great need for education in nutrition. Although predominantly an agricultural area, staple crops were the rule and home gardens rare. Under the guidance of the central planning committee which included representatives of the health department, schools, and other community groups, successful attempts were made to secure corrective action.[3, 4] Home economics teachers arranged nutrition displays and games, children at school prepared and ate the nutritious though unfamiliar foods. The lesson was carried into the home, as nutrition experts prepared foods for entire families of children who appeared malnourished and whose diets were lacking in essentials. Grocers reported increases in the sale of whole wheat products and community home canning reached amazing proportions. The health officer noted a marked increase in attendance of parents at school examinations and a greater willingness to coöperate in the correction of defects. Successful efforts with parents of the school age child were shown to be of immediate advantage to both the younger and older members of the family. The infant and preschool clinic loads were raised, immunizations at earlier ages became more frequent and adult interest in health problems became more apparent as evidenced by their increased financial support of health department programs.

F. *Health Education through a Corrective Program*—As you know, the health officer who works in upstate New York has a limited legal responsibility toward school health education. We have already stressed the fact that this should in no way influence his moral responsibility in this direction. At present, part of our county is acting as a control for the ten year fluorine dental caries preventive study.[5, 6] Fluorine is being added to a total of one part per million to the water supply in an adjoining city, while the children of one of our own cities are being used as controls. Data collected by this state health department survey have revealed that even in an economically satisfactory area 58 per cent of the school children needing dental care have received none, 22 per cent have received only partial dental care, while a mere 20 per cent have obtained complete care. That this neglect of dental care is based on a poor understanding of its need has been proved in other areas, and appears to be our chief problem as well.[7, 8] True, we can and did point out this fact repeatedly to school authorities who promised to step up the pace of dental health education. But in dental care the best educational response will follow in an active demonstration—a maxim already proved through our own efforts in the preschool dental program. Since the school authorities were unable to meet this need, the health department is coördinating the community resources to initiate action. Coöperating

dentists have been secured in one area which will serve as a demonstration project. The departmental dental hygienist was offered to the school on a part-time basis. Our health educator will assist in emphasizing the scientific facts involved. The Parent Teachers Association will help with arrangements and the local public health nursing committee will see that the results are brought to the attention of the community. But primarily, the program in itself will be valuable school health education. It will lead schools to break away from the old plan of giving care largely to the poorest children with the worst teeth—a never-ending process. We now expect to take each new beginning class, give the children complete dental care and follow through with continued care as they progress onward through the primary grades. The goal toward which we are striving is an entire school with perfect teeth. Such a program should prove more valuable to the dental health education of the county than all the years of hit-and-miss correction which have preceded this plan recommended by the American Dental Society.[9, 10] Put into effect through the initiative of the health department and the cooperation of many local agencies, this project should lead to positive action on the part of parents and children toward voluntary correction of dental defects.

Conclusion

Energetic health officers are never satisfied with the health progress in their community. How well are community resources being utilized in the school program? With few exceptions the reply has been discouraging. But recognition of need is the first step toward positive action. In many health departments, health educators have been added to the staff to serve as liaison personnel between education and health. School administrators are realizing the untapped community resources available for teaching. At the state level, coöperation between the departments of health, education, mental hygiene, and social welfare is becoming more apparent as evidenced by the recent recommendations of a newly organized interdepartmental council in New York State.[11]

All of us have realized that health education is our prime weapon for bridging the gap between health practice and available health facilities. Health departments are providing the facilities; their communities contain the laboratories for health demonstration. It is up to the health officers and school administrators to accept the challenge and employ these facilities to their fullest extent in a school health program. Let us deëmphasize the specific campaign as an instrument of health education in favor of a continuous, organized, and coöperative program for all ages. In this work the schools must play a prominent role.

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Presence of Neutralizing Antibodies of Newcastle Disease Virus in Human Sera

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IN 1926 a highly infectious and fatal disease of fowls was first recognized in the Dutch East Indies by Kraneveld,[1] and also by Doyle at Newcastle-on-Tyne, England. In 1927 Doyle[2] isolated a filter-passing agent that he designated as Newcastle disease virus (NDV). Similar outbreaks among poultry were soon described from various parts of the world with the exception of the United States. It was not until 1941 that Beach[3] and in 1942 Stover[4] both recognized a respiratory central nervous system disorder of chickens in California that became known as avian pneumoencephalitis.[5] By means of the serum neutralization test Beach[6] in 1944 established the serological similarity of this strain with that of the British Newcastle disease, and in the following year the same virus was recovered from fowls in a series of outbreaks in the eastern United States.[7] Systematic surveys during the past three years have demonstrated the presence of the disease, either by virus isolations or serum neutralization tests, in all but four states in this country.[8] Therefore it has become of major importance to poultrymen throughout the United States as well as other parts of the world. Beaudette[9] has ably reviewed the literature on Newcastle disease through 1943, while Brandly, *et al.*[7] have summarized the more recent epizoötiology of this poultry disorder.

Burnet and Ferry[10] in 1934 were the first to propagate NDV in the embryonated hen's egg but it was not until 1942 that Burnet[11] demonstrated its ability to agglutinate chicken red-blood cells and thus place it with the respiratory group of viruses, such as influenza and mumps. The NDV has long been considered of primary importance for birds, yet in 1947 Reagan and coworkers[12] demonstrated its adaptability to certain mammalian tissues. They were able to make serial passages in the Syrian hamster[13] and likewise infect a rhesus monkey[14] by the intracerebral but not by the intranasal route. Mice, guinea pigs, and rabbits were relatively insusceptible.

Although much has been written about Newcastle disease in poultry, only four reports in the literature mention invasion of human tissues. All of these cases are concerned with eye manifestations. Burnet in 1943[15] described a laboratory infection in Australia due to accidental entrance of live virus into the eye, followed by a conjunctivitis, headache, chills, and general discomfort. Newcastle disease virus was recovered from the conjunctival fluid and antibodies for

the latter were present in the patient's serum. In 1946 Anderson [16] reported two other laboratory infections in Australia. Both patients developed conjunctivitis and NDV was isolated from the tears.

In 1946 Shimkin [17] recorded a case of conjunctival hemorrhage in a worker at the Governmental Poultry Laboratory in Palestine. In the same year Yatom [18] described a small epidemic of NDV infection among kitchen workers handling poultry in the Agricultural School, Mikveh-Israel, where an outbreak had recently occurred among the fowls. Seventeen people developed a conjunctivitis which disappeared in 10–14 days.

Although NDV was first recognized in California about 1941, it was not reported for the eastern states until 1944 and 1945 [7] which time would roughly correspond to the appearance of certain atypical human cases in Tennessee. The disease in fowls spread rapidly over the country after the first recognition, but was not recorded in Alabama and Tennessee until 1947,[23] although it may have been present earlier in an inapparent form. It was in 1948 and perhaps in late 1947 that infections in human beings in Alabama were found.

Except for these reported eye manifestations there has been no mention of any particular association between this disease in fowls and human infection among the general population. It is the purpose of this report to describe the accumulated evidence leading one to consider that the poultry disease has become of significance to man in the United States and that the human manifestations follow very closely those described for the avian disease; either respiratory or neurological symptoms, or a combination of both. Most of the evidence has been based largely on the results of serum neutralization tests because, so far, the virus has not been recovered from any human tissues. The facts on which these considerations are based have developed in the following manner.

NEUTRALIZATION TESTS ON THE SERA FROM TENNESSEE

For several years outbreaks of a mild central nervous system infection have been occurring among children in middle Tennessee and have been associated with an influenza-like disorder in adults. There have been no fatalities. Serum neutralization tests had repeatedly been negative for viruses of the recognized summer encephalitides. In the milder cases, there was usually a sudden onset with fever, headache, malaise, occasional chilly sensations, and complete recovery in 24 to 48 hours. In other instances there was evidence of meningeal irritation with stiff neck and back and occasionally nausea and vomiting. Even in the more severe cases the temperature elevation rarely persisted for more than three days, and the duration of illness for more than five days.

Through the courtesy of Dr. Amos Christie and of Dr. J. C. Peterson * of the Department of Pediatrics at Vanderbilt Hospital, sera from many of their patients were sent to the U. S. Public Health Service Virus Laboratory at Montgomery, Ala. Collections were likewise made by members of the Virus Branch of the U.S.P.H.S., Epidemiology Division. All neutralization tests made with these sera were negative for the viruses of eastern and western equine encephalomyelitis and St. Louis encephalitis. Fecal specimens from a few of the cases when inoculated into monkeys were likewise negative for the virus of poliomyelitis. Because of both the negative serology and the repeated association of the cases with chickens on the premises, it was thought of interest to try the serum neutralization tests

* The clinical histories of these patients will be reported later.

against the virus of Newcastle disease which had now become of such widespread importance to poultry raisers in this country. This thought was further strengthened by the finding of sick chickens in the yard of one of the patients who had manifested the milder clinical symptons. The two birds were obtained and showed not only the clinical manifestations of Newcastle disease but the characteristic gross lesions at autopsy. No virus was recovered from the tissues when inoculated into embryonated eggs, but the blood sera from both birds contained antibodies for NDV.

a. *Methods*

Through the courtesy of Dr. L. T. Giltner of the Bureau of Animal Industry, the California strain of pneumoencephalitis (Newcastle disease virus) was received and by permission of the B.A.I., it has been used for performance of the serum neutralization test in embryonated eggs. The technique employed has been essentially the same as recommended by the B.A.I.[19] for the identification of antibodies in poultry sera, except that the method of virus dilution follows the standard recommended for neurotropic viruses in the U. S. Army *Laboratory Manual*.[20] By this method the undiluted serum is added in equivalent amounts to different tenfold dilutions of virus beginning with 1–5 and thus becoming 10^{-1}, 10^{-2}, 10^{-3}, etc. The LD_{50} end point is obtained according to the method of Reed and Muench.[21] If the virus titer is found in each test, then the neutralization index can be estimated. The result is considered negative if the index is under 10, equivocal if between 11 and 49 and positive if over 50.

In the present study the tests were performed in the following manner: Ten day old embryonated hen's eggs were inoculated into the allantoic cavity with 0.1 ml. of NDV and the allantoic fluids removed aseptically in 48 to 72 hours. The fluids with an LD_{50} end point of at least $10^{-9.6}$ to $10^{-10.0}$ were then pooled, sealed in ampules, and stored in the dry ice refrigerator for future use. Sufficient virus was prepared to perform a large number of tests, thereby insuring a greater uniformity of results. Standard positive serum was obtained from immunized rabbits.

The tests were performed by preparing serial tenfold dilutions of the virus in buffered saline containing 10 per cent normal rabbit serum and adding 0.3 ml. of undiluted serum to 0.3 ml. of each virus dilution. These dilutions were spaced within a range that would give positive results at one end and negative at the other, in order to determine the LD_{50} virus end point. The resulting mixtures were shaken and placed in the incubator at 37° C. for ½ hour and then removed to the cold room at 9–10° C. for another ½ hour. Ten day old embryonated eggs were inoculated with 0.1 ml. of each dilution into the allantoic fluid. As a rule, 4 eggs were used for each dilution. The inoculated eggs were then kept at 37° C. and candled every day for viability. A known positive serum was included with each test. The virus was titrated through 10^{-10} and an equal amount of 10 per cent normal rabbit serum in buffered saline was added to each dilution. In the absence of protection, the embryos usually died in 3 to 4 days. All live eggs were kept under observation for 6 days before they were discarded. The eggs with embryos that died within 24 hours were not included in the final computations. Any that died irregularly or out of the proper sequence were opened and the allantoic fluid was tested for virus by the hema-agglutination test. If there was sufficient material, the tests were repeated on all equivocal sera. Whenever possible an effort was made to obtain both acute and convalescent blood from each patient so as to compare any change in titer.

TABLE 1

Neutralization Tests Against NDV Using Human Sera from Tennessee

I. Newcastle Disease Syndrome					*II. Encephalitis*					*III. Other Febrile Illnesses*				
Case No.	*Date of Onset*	*Date Bled*	*Neut. Index*	*Result*	*Case No.*	*Date of Onset*	*Date Bled*	*Neut. Index*	*Result*	*Case No.*	*Date of Onset*	*Date Bled*	*Neut. Index*	*Result*
1	8- 3-47	10-28-47	67.7	+	4	12- 6-46	10-28-47	0	0	6	?	1-12-48	2.5	0
2	7-19-47	"	45.8	Wkly +	5	5-23-47	11- 3-47	100.0	+	8	?	8- 6-47	14.5	?
3	8- 1-47	"	458.0	+	7	5-22-47	5-30-47	0	0	9 †	7-11-47	11- 3-47	458.0	+
10	8-10-47	"	148.0	+	19	8- 3-47	8- 5-47	0	0	16	?	1-23-48	0	0
11	8-25-47	"	3.2	0	23	?	1-12-48	0	0	20	?	4- 2-47	10	0
12	8-22-47	9- 4-47	0	0	27	4- 8-47	4-28-47	0	0	22	?	1-12-48	0	0
		9-12-47	458.0	+			11-10-47	4.5	0	24 ‡	?	12- 2-47	0	0
		1- 8-48	14.5	?	29	8-16-47	9-12-47	0	0			1- 8-48	6.1	0
13	?	3-28-48	3170.0	+			11- 3-47	0	0	26	?	11-22-47	0	0
14	7-26-47	8- 6-47	0	0	31 **		11- 3-47	83.2	+					
		11- 8-47	+	+										
15	8-13-47	11- 3-47	317.0	+										
17	7-12-47	11- 3-47	1000.0	+										
18	7-13-47	10-29-47	+	+										
		11- 3-47	3470.0	+										
21	7-19-47	10-29-47	214.0	+										
25	7- 8-47	10-28-47	100.0	+										
28*	8- 1-47	8-20-47	0	0										
		1- 7-48	45.8	Wkly +										
30	9-26-47	10-29-47	39.9	Very Wkly +										
*		5-17-48	0	0										

+ — Neutralization test positive
* — Symptoms of either mild encephalitis or of NDV
† — Poliomyelitis-like symptoms—Slight weakness in right arm
‡ — Guillain-Barré syndrome
** — Contact of case No. 5 who had a severe encephalitis

b. *Results of the neutralization tests*

The results of the neutralization tests on the sera obtained from children in Tennessee during 1947 and the early part of 1948 are given in Tables 1 and 2. In Table 1 the cases are roughly classified into three groups; those having (1) atypical illnesses showing what might be called the ND syndrome, (2) those having a definite or a severe encephalitis, and (3) those that did not fall into the other groups or from whom no histories were available. Table 2 summarizes the results of all the neutralization tests performed on the sera from Tennessee, including a large group kindly sent by Dr. J. C. Peterson from patients entering the Vanderbilt clinic during 1944 and 1945. Eleven of these children had encephalitis but the other 78 had come in because of dysentery, enteritis, tetanus immunization, or the like.

Of the 15 children placed in group 1 (ND syndrome), 80 per cent had antibodies for the Newcastle disease virus. Three sera, however, were only weakly positive. There were three instances (case Nos. 12, 14, and 28) in which the tests were negative on the first specimen but became positive on the second bleeding. It is unfortunate that many of the sera originally obtained had been previously used for testing against other viruses before work was initiated on NDV. One very severe case of encephalitis (No. 5) and one having poliomyelitis-like symptoms (No. 9) showed the presence of antibodies. All other cases of encephalitis gave no protection against NDV including those seen in 1944–1945. The tests, however, were done on only one bleeding. All of the 78 sera kept since 1944 and 1945 were entirely negative for NDV antibodies.

TABLE 2

Total Results of Neutralization Tests Against NDV Using Human Sera from Tennessee

Type of Illness	*No. Sera Tested*	*No. With Positive Neut. Index*	*No. Weakly Positive*
Newcastle disease syndrome (1947–1948)	15	9	3
Definite encephalitis (1947–1948)	6	1	..
Contact to encephalitis case (1947)	1	1	..
Polio.-like illness, no definite paralysis (1947)	1	1	..
With paralysis	1	0	..
Other undiagnosed atypical illnesses (1947–1948)	7	0	..
Total for 1947–1948	31	12	3
Encephalitis (1945)	11	0	..
Cases of dysentery, enteritis, tetanus, diphtheria (1944–1945)	78	0	..
Total for 1944–1945	89	0	..

NEUTRALIZATION TESTS ON THE SERA OF THE LABORATORY PERSONNEL

After receiving the NDV from the Bureau of Animal Industry early in December, 1947, work was started immediately for the performance of the neutralization test in eggs. No one in the laboratory, except perhaps one veterinarian, had had any previous known association with NDV. He had not been working with the virus itself.

On March 10, 1948, one of the laboratory staff (R.G.) developed an influenza-like illness mainly characterized by severe headache, pain in the chest, and general malaise. She remained home for several days and soon recovered. Blood was taken several weeks later. She had not been working with NDV but her serum protected against

TABLE 3

History and Results of Serum Neutralization Tests on Laboratory Personnel with a Mild Illness

Name	*Date of Onset*	*General Symptoms*	*Duration of Illness*	*Date Bled*	*LD_{50}*	*Neutralization Index*	*Result*
R.G.	3-10-48	Sore throat, cold(?), severe headaches, eyes hurt, pain in chest	About a week	7-14-47	0	0	0
				4- 6-48	$10^{-5.0}$	45.8	Wkly +
				6-21-48	$10^{-6.74}$	1820	+
P.W.	3-10-48	Headache, fever for 2 days, nausea	2 days	7- 9-47	0	0	0
				5-20-48	$10^{-6.48}$	3320	+
J.A.	3-18-48	Chills, malaise, vomiting, headache, fever, muscle pains, backache, generalized weakness	About 10 days	7- 9-47	0	0	0
				3-23-48	$10^{-6.50}$	1450	+
				4- 6-48	$10^{-4.82}$	139000	+
				4-22-48	$10^{-5.74}$	18200	+
	3-21-48	Conjunctivae injected		5-17-48	$10^{-4.60}$	100000	+
	3-26-48	Fever gone, weakness persisted 2 more days					
R.K.	3-30-48	Fever, (103°), headache, dizziness, aches	12 hrs.	9-29-47	0	0	0
				5-20-48	$10^{-7.0}$	1000	+
				6-24-48	$10^{-5.31}$	28200	+
U.B.	5- 3-48	Fever (100.6°), nausea, vomiting, stomach and backache, lower extremities ached	About 3–4 days	5- 4-48	$10^{-5.0}$	100000	+
				5-17-48	$10^{-5.24}$	57600	+
R.F.	5-13-48	Fever (102°), nausea, malaise, generalized aching	About 3 days	5-17-48	$10^{-5.74}$	18200	+
				6-24-48	$10^{-4.96}$	110000	+

the virus as shown in Table 3. There were no antibodies for influenza A and B viruses.

On March 18, 1948, one of the technicians (J.A.) who had been working with NDV complained of aches and pains and a feeling of malaise. She was at work for two days, then remained at home because of nausea, vomiting, fever, headache, and general weakness. This occurred over the week end and as no one realized her condition, she was not seen by the Medical Officer until Monday. Blood was taken and it was thought that she might have an influenza-like illness. Her temperature had become normal by March 26 and her condition rapidly improved, although the weakness persisted for two more days. Because she had been associated with the NDV her serum was tested for neutralizing antibodies against this strain. Anti-hema-agglutination tests were also run against the viruses of influenza A and B. The results were negative for the latter strains but positive for NDV. Blood was removed at successive intervals and the neutralization tests were progressively more positive as shown in Table 3.

Two more members of the laboratory personnel (P.W. and R.K.) developed milder but similar illnesses in March, while in May two additional people became ill with more pronounced symptoms (U.B. and R.F.). Sera from all of them contained neutralizing antibodies against NDV (Table 3) in high titer. After obtaining these first positive results, blood was removed from many of the laboratory workers. Likewise, it was fortunate that sera had been taken during the summer of 1947 from a large group of staff members, many of whom, however, had already left the laboratory.

The results of the neutralization test on sera of the staff taken both in 1947 and 1948 are summarized in Table 4. All tests were negative on the bleedings of 1947, while they were all positive on the sera of the group showing symptoms in 1948. Of the 11 people without symptoms 4 had definite antibodies against NDV. Two of these individuals had been inoculating eggs with NDV, while the other two had no direct contact with the virus but only contact with the staff members who had been sick.

Neutralization tests were done also

TABLE 4

Total Results of Neutralization Tests Against NDV Using Sera from Montgomery Laboratory Personnel

	People with Symptoms in 1948			*People without Definite Symptoms in 1948*		
Year Bled	*No. Tested*	*No. Positive*	*Per cent Positive*	*No. Tested*	*No. Positive*	*Per cent Positive*
1947	6	0	0	13	0	0
1948	6	6	100	11	4	36.3

on the sera of 3 other persons, two of whom were clerical workers at the laboratory and the third the wife of one of them. These tests were not included with the others, because all three individuals had developed the same clinical symptoms of headache, fever, and general malaise before they arrived at the laboratory. Two had this illness in Atlanta, Ga., in February, 1948, and the third had similar symptoms during the last of August, 1947, before joining the laboratory staff. Unfortunately there were no early blood specimens from these people, but the results on the later sera were all strongly positive for NDV. It seemed evident that the development of these antibodies in the sera of the married couple must have occurred prior to residence at the laboratory because the blood was removed from the husband on arrival and the wife had no contact with the place. Likewise the third person, and also her husband, had been quite ill with similar symptoms before there was any connection with the laboratory.

From the results of the serum neutralization tests, it seems apparent that this febrile influenza-like illness had developed among the staff subsequent to the advent of the virus in the laboratory. One of the 6 persons with symptoms had worked with NDV, while four of the others were together in the same room. On the other hand, a similar type of disorder had been occurring throughout Montgomery for several months and these people may have acquired their infection from an outside source. It is to be regretted that no virus was recovered from any of the laboratory personnel. Most of the individuals either had a transient illness that was not reported at the time or else became ill before the significance of obtaining material was recognized.

NEUTRALIZATION TESTS ON OTHER SERA FROM ALABAMA

Coincidental with the appearance of these illnesses among the laboratory personnel, a case of illness in a child was seen by one of us (L.K.B.) during April, 1948, in consultation with Dr. T. C. Marrs of Montgomery, Ala. The boy became acutely ill with symptoms similar to those mentioned for the children in Tennessee. There was early evidence of neurotropic disturbance with later recovery. Through the courtesy of Dr. Marrs, throat washings and both acute and convalescent blood were obtained from the child. The neutralization index for NDV was 21.4 for the early serum but rose to 17,800 for the sample taken 17 days later. No virus was isolated from the throat washings which had been treated with antibiotics and inoculated into hamsters and embryonated eggs. Because there had been association with chickens prior to his illness, blood was withdrawn from 12 of this flock. No antibodies for NDV were found in their sera.

Later in June, through the courtesy of Dr. D. G. Gill, the State Health Director of Alabama, Dr. L. R. Worcester of the State Health Department and U. S. Public Health Service, and Dr.

J. T. Grimes, the attending physician, blood, feces, and throat washings were obtained from a group of 8 children and 1 adult in a rural town of southeastern Alabama. All of the patients had poliomyelitis-like symptoms; headache, fever, vomiting, and certain neurological signs, but no residual paralysis. The fecal material was treated with antibiotics and inoculated into monkeys, hamsters, and eggs, while the treated throat washings were injected only into the two latter hosts. The virus of poliomyelitis was not isolated from the fecal specimens nor was any other virus obtained from the eggs or hamsters. The neutralization tests, however, were definitely positive against NDV on the sera of 7 children and equivocal on the other two patients. The results on a later bleeding have not yet been obtained. Because most of the cases had some previous association with chickens, blood was taken from poultry found on the premises of several patients. Of the 9 sera examined 5 have shown antibodies for NDV. Although the work in regard to this outbreak is still incomplete, and even though no virus has been found, there seems to be sufficient evidence from the results of the serum neutralization tests to indicate an association with Newcastle disease virus.

CONTROL DATA

Neutralization tests were negative on the sera of 97 children and adults who did not have these symptoms and from 19 of the laboratory personnel taken before working with this virus.

DISCUSSION

From the gradually increasing evidence, it is apparent that during the past 3 or 4 years a hitherto undifferentiated disease entity is beginning to be recognized, particularly in communities of the South. Because children are often affected and manifest certain poliomyelitis-like symptoms, the disease is often reported as poliomyelitis. On the other hand, some cases may show pronounced meningeal irritations and be called meningitis. Still others may have pneumonitis complications. Although the clinical symptoms may not be quite uniform and may vary according to the individual physician's interpretation, yet in general all cases agree in showing a sudden onset, abrupt febrile course and rapid recovery without paralysis or other sequelae. An outbreak of this type, recognized as a meningo-encephalitis, was reported in 1947 by Humbert, Tucker, Mosley, and Bishop [22] for Giles County, Tennessee. About 209 children and adults were seen with this acute disease, probably of viral nature, which usually lasted from 24 to 48 hours, although the fever, headache, and malaise might continue for 5 to 10 days. There were no fatalities.

Although conclusive proof is lacking without isolation of a virus, yet the results of the serum neutralization tests suggest that the virus of pneumo-encephalitis (Newcastle disease) of fowls is the etiological agent responsible for this varied syndrome. With exception of the people in the laboratory group, most of the cases from Tennessee and Alabama were associated with chickens. Chickens showing ND symptoms were found on the premises of one patient in Tennessee, while the sera of others in Alabama had positive neutralizing antibodies for this virus. The dates of recognition of NDV in fowls in these two states roughly coincide with those for the atypical human cases.

The disease of fowls is usually characterized by neurological symptoms in the immature birds, while respiratory manifestations predominate in the adults. A similar tendency has been observed in the human cases described; a relatively mild course, with meningeal or neurological symptoms more pronounced in children, more influenza-like manifestations in adults.

The data presented in this paper suggest that the virus originating with the fowl has subsequently spread to man, so that now in many instances it may be transmitted from man to man as well as from fowl to man. Poultrymen have long recognized the air-borne transmission of the virus, but it is only recently that DeLay, DeOme, and Bankowski,[24] by means of a special apparatus, have recovered NDV from the air of poultry houses containing infected birds. Because NDV is both air-borne and quite resistant to adverse conditions,[25] one could readily explain a rapid dissemination from fowl to man.

SUMMARY

1. Sera were received in 1947 and 1948 from various groups of children in Alabama and Tennessee suffering from a mild central nervous system infection of short duration and without sequelae. Because of the frequent association with chickens and the absence of antibodies for the common neurotropic viruses, serum neutralization tests were done against the virus of pneumoencephalitis (Newcastle disease) of fowl.

2. Of 15 sera from children in Tennessee with the ND syndrome 12 were positive to NDV. One case of encephalitis and one with poliomyelitis-like symptoms had antibodies for this virus, but all other sera were negative, including 78 that were taken from children in 1944–1945 without this atypical syndrome. Two chickens from the premises of one of the patients showed both the pathological lesions of Newcastle disease and the presence of neutralizing antibodies in the blood.

3. Of 10 sera from human beings in rural Alabama showing this mild central nervous system syndrome, 8 had definite neutralizing antibodies for NDV, while 2 were equivocal. Chickens with NDV antibodies were in association with several cases.

4. Subsequent to starting work with the virus in the laboratory, an acute influenza-like infection developed in 6 of the laboratory personnel. Antibodies in high titer against NDV were found in the sera of these 6 persons. Antibodies were also found in 4 out of 11 sera of laboratory personnel without symptoms. The sera taken from 19 people in 1947, before working with the virus, were negative for NDV antibodies. The blood of 3 individuals who had typical symptoms before association with the laboratory contained definite neutralizing antibodies for NDV.

5. All neutralization tests for NDV were negative on the sera of 97 children and adults who had not shown these atypical neurological symptoms.

6. Although no virus has been isolated, it seems probable from the evidence presented that the Newcastle disease virus of fowls is the agent responsible for many of the atypical central nervous system infections that have been reported in man during the past few years, and that, as in the fowl, the manifestations are neurological in young individuals and influenza-like in the adult.

7. It is suggested that NDV originating with the fowls has probably spread to man and that in many instances there is a man to man rather than a fowl to man dissemination.

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Alaska Expands Its Public Health Program

C. Earl Albrecht, M.D., Commissioner of Health of the Territorial Department of Health, Juneau, Alaska, has announced that the budget for the Territorial Department of Health has now been fixed for fiscal 1949 in the amount of $1,115,000.

Dr. Albrecht reports that Congress appropriated funds to expand the public health program in Alaska in all fields. An item of $250,000 has been set aside for research. A sum of about $6,000,000 has been set aside by Congress for the building of a second sanatorium in the area near Anchorage, besides funds which were made available for at least 4 custodial units for the treatment of tuberculosis in isolated areas.

The Motorship Hygiene has been officially transferred from the U. S. Army to the Territory by an Act of Congress.

Dr. Albrecht has announced that a considerable number of vacancies in professional staff at good salaries now exist, and that information concerning the vacancies may be obtained from the office of the Territorial Department of Health in Juneau.

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THE CHILD GUIDANCE CLINIC

IT is probable that nearly every reader of this *Journal* knows what clinics for tuberculosis and venereal diseases are in operation in his locality, what organization directs them, and what services they render. We suspect that not all of our readers could pass an information test on the child guidance clinics which are available in the same areas. This is why we have asked Dr. Frederick H. Allen to prepare for this issue a brief review of the developments of child psychiatry in the United States.

The National Tuberculosis Association was founded in 1904, the National Committee for Mental Hygiene in 1909. The first of these fields has developed to an astonishing degree, while in respect to mental hygiene, we are just beginning to translate talk into action. The National Committee for Mental Hygiene told us in its last *Annual Report* that there were only 50,000 children served by guidance clinics in the United States while five times that number needed such assistance. The cost of clinic services of this type is considerable, since the procedures involved must, of necessity, be intensive and long-continued. In one New England city, recently studied by the writer, the cost of such a clinic was $66 a year for each child under treatment. The lack of personnel, as Dr. Allen points out, is an even more serious handicap than the lack of funds.

Somehow, the obstacles to progress in this field must be overcome. We must not forget that mental and emotional maladjustment is almost as serious in its results as all other kinds of diseases and disability taken together; that adequate emotional adjustment attained in childhood will frequently establish a balance making all the difference between success and failure in after life; and that the ultimate saving in human efficiency attained by such adjustment compensates tenfold or a hundred-fold for the cost involved. The National Mental Health Act opens the way to real progress in the provision of community services of this kind and in the preparation of personnel for such services.

What is your community doing to take advantage of these opportunities?

THE PROBLEM OF WHOOPING COUGH

THE figures cited below make it clear that pertussis has been less effectively controlled than any other of the acute communicable diseases of the United States.

	Deaths per 100,000		
	1900	*1940*	*Per cent Reduction*
Diphtheria	40.3	1.1	98
Typhoid Fever	31.3	1.0	97
Measles	13.3	0.5	92
Whooping Cough	12.2	2.2	82
Scarlet Fever	9.6	0.5	95

Since 1940, the same trend has continued. During the three years, 1943–1945 the combined death rate from diphtheria, scarlet fever, and typhoid fever was slightly less than that from whooping cough alone. This disease causes approximately 2,000 deaths a year in the United States.

A recent article by Mudd and Felton [1] on specific means of controlling pertussis is therefore of interest to the health officer.

These authors make three major points. They advocate as an aid in diagnosis, the cultivation of the organism from suspected cases by the use of nasopharyngeal swabs, and cultivation on Bordet-Gengou blood agar with a drop of penicillin solution to inhibit interfering Gram-positive organisms. This procedure, devised by Bradford, is considered superior to the use of cough plates.

Secondly, they point out that the use of hyper-immune human serum (prepared from suitable donors, treated with repeated inoculations of *H. pertussis* vaccine) is of established value in treatment and in the passive immunization of exposed children. This procedure has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association; and appears superior to use of the rabbit sera provided by certain commercial firms. It is concluded that " human hyperimmune serum or globulin should be used in treatment of all infants who are seriously ill with whooping cough."

Finally Mudd and Felton lay stress on the importance of active immunization by the use of standard pertussis vaccine. Since almost half of all deaths from whooping cough occur within the first six months of life, vaccination should be performed early to be effective. With older children, the use of pertussis agglutinogen as a skin test for susceptibility is suggested, although its value is still in the stage of clinical trial. Studies on over a thousand individuals have shown only 1 per cent positive reactions in infants with no known clinical history; 82 per cent in children with a history of whooping cough; 84 per cent in vaccinated children; and 100 per cent in adult immunized blood donors.

An important contribution by J. A. Bell [2] has recently called attention to the value of an alum-precipitated mixture of pertussis vaccine and diphtheria toxoid for the simultaneous control of both the diseases concerned.

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GALILEO WAS RIGHT

IN the fall of 1932, the Committee on the Costs of Medical Care presented its *Final Report* which included the two following major recommendations:

"I. The Committee recommends that medical service, both preventive and therapeutic, should be furnished largely by organized groups of physicians, dentists, nurses, pharmacists and other associated personnel. Such groups should be organized, preferably around a hospital, for rendering complete home, office, and hospital care. The form of organization should encourage the maintenance of high standards and the development or preservation of a personal relation between patient and physician."

"III. The Committee recommends that the costs of medical care be placed on a group payment basis, through the use of insurance, through the use of taxation, or through the use of both these methods. This is not meant to preclude the continuation of medical service provided on an individual fee basis for those who prefer the present method. Cash benefits, i.e., compensation for wage-loss due to illness, if and when provided, should be separate and distinct from medical services."

A group of 8 physicians and 1 clergyman, who were members of the Committee, presented a minority report, dissenting from these conclusions; and recommended only two practical measures for the wider provision of medical care, the expansion of government care of the indigent, and the development by state or county medical societies of plans for medical care.

The Journal of the American Medical Association, on December 3, 1932, compared the Committee report and the minority report and concluded that "The alinement is clear—on the one side the forces representing the great foundations, public health officialdom, social theory—even socialism and communism—inciting to revolution; on the other side, the organized medical profession of this country."

So much for 1932; now for 1948. At the request of a Senate Committee, the Brookings Institution of Washington presented a report last winter on *The Issue of Compulsory Health Insurance.* This report concludes that "The experience of the United States since 1932 seems to have demonstrated the wisdom of these recommendations of the majority of the members of the Committee on the Costs of Medical Care. It would seem unwise at this time to substitute for these developments a system of compulsory health insurance by national law which would have the unfortunate tendency to freeze policies and eventually retard medical progress."

Galileo was right. The world *does* move.

The quotation of the Brookings report with apparent approval in the *Journal of The American Medical Association* for June 5, 1948, and the attitude taken by the A.M.A. representatives at the recent meetings of the National Health Assembly seem to indicate that the Association has now moved on to almost the exact position taken by the Committee on the Costs of Medical Care, 16 years ago. What was "socialism and communism—inciting to revolution" is now accepted doctrine in the minds of such a highly conservative group as the Brookings Institution and appears acceptable to the *Journal of the American Medical Association.*

Public opinion necessarily moves slowly; but the ground gained in coöperative thinking is most encouraging. The fact that a successful program of medical care must be based on the broad principles of group practice and group payment is now generally accepted. The interval between the most extreme conservative thought and the most progressive thought on this matter has narrowed down to two—and only two—major issues. Shall prepayment be "compulsory" or "voluntary"? Shall compulsory plans be on a state-wide or on a national basis?

It will be recalled that the Committee on the Costs of Medical Care did not—

in 1932—recommend compulsory sickness insurance because its members believed that further experimentation with group practice was first desirable, although they did say that "such a step may ultimately be necessary and desirable in some states." It is of interest to note that Dr. Haven Emerson and four other members of the C.C.M.C. dissented from the Committee's emphasis on voluntary insurance as the basis for experimentation in 1932 and said: "We feel that the report should not emphasize or recommend voluntary health insurance over required health insurance, or vice versa, but that both plans or a combination of the two be equally recommended by the Committee for experimentation." Today there are many other students in this field who would assent to such a proposition, since experience during sixteen years has greatly increased the knowledge at our disposal.

The term "compulsory" is a somewhat unfortunate one, since it has been used to imply that the medical profession would be "compelled" to do something, which is, of course, not the case. "Compulsion" applies to payments by employees (who ardently desire such a plan) and to employers (who have not opposed it). The real essence of such a program is that it is ***contributory;*** and that contributions come from the employer as well as the employee. This is the only way (short of universal state medical service, which no substantial group advocates in the United States) by which the family of moderate income, but above the level of indigence, can be provided with the medical care which it needs. The Health Insurance Plan of Greater New York most ingeniously provides service which is supported on a "contributory" but not a "compulsory" basis. Whether such a program could be used in other areas is doubtful but worth exploration. On a geographical basis, it is quite possible that the more economically fortunate states could develop compulsory plans such as that urged by Governor Warren in California. It seems certain that the less prosperous states could not.

It is heartening that the area of controversy has been limited by sixteen years of discussion to the two concrete issues cited above. We trust they may be considered in the light of factual data and the results of such experiments as the New York Health Insurance Plan, with avoidance of emotional propaganda and with that reverence for the truth which should be the conscience of the scientist.

LETTERS TO THE EDITOR

TO THE EDITOR:

I have read with interest the article by Justin Andrews, beginning on page 931 of your July issue. It is with much regret that I note he failed to give any credit to, or even mention, the anti-malarial work done by the U. S. Army during the war period.

For your information, I would like to point out that during 1941, 1942, and 1943, the following was *part* of the anti-malarial work done by the Army under my general direction in and around our camps in the Continental United States:

Oil and larvicide applied	4,250,000 gals.
Paris green applied	165,000 lbs.
Ditches dug	1,356 miles
Fill placed	5,480,000 cu.yds.

This does not include minor work, as ditch cleaning, ditch lining, etc. Nor does it include work done in 1944 and 1945, for which the figures are not immediately available to me. The data seem sufficient, however, to show that the work the Army did was sufficiently large to be a factor in the results shown in the chart on p. 936, which chart, incidentally, was prepared originally in my office.

W. A. HARDENBERGH
Pres. & Editor
Public Works Magazine
New York, N. Y.

July 14, 1948.

TO THE EDITOR:

I was much interested in the excellent editorial "The Science and Art of Health Administration" in the July, 1948 (Vol. 38, No. 7, p. 1008–9), issue of the *American Journal of Public Health*, as it expressed a view which I have long held.

As long ago as 1928 our Association became interested in the subject and in January, 1933, a Study was published by the Bureau of Educational Research, Ohio State University, entitled "The Duties of Ohio Health Commissioners." This Study was made by W. W. Charters, then Director of the Bureau, and Darwin A. Hindman.

I am sending you a copy of this Study since it may contain some of the pertinent facts relating to the subject of the editorial. You may have seen it before but if not I trust you will find the Study of interest.*

ROBERT G. PATERSON
Director of Research
Ohio Tuberculosis and Health Association

July 20, 1948

* EDITOR'S NOTE: The document referred to by Dr. Paterson is an admirable pioneer study of exactly the problem presented editorially in our July issue. We strongly recommend it to our Health Officer readers and to faculties of Schools of Public Health.

Credit Lines

WHEN A CITY SPREADS BEYOND ITS BORDERS

In the July *Journal* (p. 986) Leonard M. Board and Herbert T. Dunsmore discussed some of the environmental health problems of what they call urban decentralization. Their paper, read at the American Public Health Association 75th Annual Meeting in Atlantic City, grew out of a study of Flint, Mich., made under the auspices of the Social Science Research Project of the University of Michigan. This study posed many of the problems that arise out of the hit-or-miss organization of local government in the United States, dating back to the days of sparse population settlements and what are now primitive forms of transportation.

The same problem, as related to Flint, is discussed in the April *Public Management* in an article, "Governmental Problems of Fringe Areas," by Victor Roterus and I. Harding Hughes, Jr., who were on the staff of the Social Science Research Project.

"When municipalities reach the stage of encirclement by a ring of incorporated satellites," say the authors, "no united action takes place on crime, health, planning, and other problems." Among a number of corrective actions suggested is annexation of fringe areas. That this is being increasingly done is indicated by a news item in the May *Public Management* reporting that 170 cities with populations of 10,000 or more made annexations of land area in 1947. The number annexing one-half square mile or more of land rose from 22 in 1945 to 30 in 1946 and 53 in 1947. April *Public Management* also reports on annexations in the San Francisco Bay area in an article by John C. Bollens on "Elements of Successful Annexations."

In Colorado Springs there is a movement on foot to annex new residential areas to the city proper before they incorporate as separate municipalities. Taking one such area of 3,000 population as an example, the city manager pointed out that the annual cost of supplying municipal services by Colorado Springs would be only about half the cost it would be if the area were to be a separate city. The initial capital outlay would be about one-third less.

Another corrective possibility not mentioned by the authors is the consolidation of city and county governments. With respect to public health services this has been done by many cities and counties, among the most recent consolidations being Seattle and King County, Washington; Charleston and Kanawha County, West Virginia; Evansville and Vanderburgh County, Indiana, and Buffalo and Erie County, New York. The Colorado Springs Health Department is a city-county department and thus does not have the problems of the new fringe areas that are concerning the city council in other matters.

TUBERCULOSIS RIDES WITH POVERTY

It has long been accepted that the solution of mass problems of tuberculosis control is in the foreseeable future. What still remains further from solution is the harder part, namely, focusing attention on the individual patient as a personality in a social environment, and making that social environment contribute to healthful living. *Life, Death, and Tuberculosis As Affected by Standard of Living* by Bailey B. Burritt is another chain in the evidence that tuberculosis is now at least as much a socio-economic as a medical problem.

Recently retired as Director of the

National Health Council, to which he was called for a year's special service after retiring from the General Directorship of the Community Service Society of New York, the author had long experience in dealing with the home problems of individuals and families in both the health and social fields. He says "The maintenance of a suitable standard of living means a great difference as to whether individuals and families will or will not acquire tuberculosis, and for those who may already have acquired this disease, it means a great difference in the chance of recovery and in preventing them from being the means of the development of new cases."

Then, in a brief attractive booklet, the author brings together significant and dramatic samples of the evidence linking tuberculosis and standard of living. This link has long been known but it bears frequent repetition because the knowledge is still far from perfectly acted upon.

Available from State Committee on Tuberculosis and Public Health, State Charities Aid Association, New York 28, N. Y., 5 cents.

HOUSING NEEDS MADE VIVID

A Housing Program for Now and Later makes the housing problem as real as the human beings who live in houses, or what often currently pass for houses. "Housing right now is doubling up and sharing the bath and cooking over a hot plate—it is the fact that you would love your old parents a lot more if they didn't have to live with you in a crowded flat. It is one reason why the farmer's wife grows old before her time and his children go away to the city, where at least they won't have to thaw out the pump on zero mornings."

Published by the National Public Housing Conference (1015 Fifteenth St., N.W., Washington 5, D.C.), under the editorship of Catherine Bauer, Chairman of a Joint Committee of the National Association of Housing Officials and the National Public Housing Conference, it should be in the hands of every public health worker and also of everyone who thinks, with Representative Wolcott, that the public housing feature of the Taft-Ellender-Wagner bill should be eliminated. Twenty-five cents.

VIRGINIA HEALTH BULLETIN BACK ON THE SCENE

In May, 1948, appeared No. 1 of Vol. 11 of the *Health Bulletin* of the Virginia Department of Health. This had ceased publication with Vol. 10 in 1946. The new version is sprightly and attractively packaged. It starts with a "Know Your Health Department" article, gives some highlights of 1947, the 75th anniversary year of the State Board of Health, and has a "Did You Know That:" column which has a number of effective health education capsules. "Control of disease is not possible without the effective participation of Virginia's citizens" and "Write and tell us your reaction to the Bulletin" are two quotes that might be used elsewhere.

The present Virginia State Health Commissioner is Lonsdale J. Roper, M.D., who was appointed on August 7, 1946.

CARE OF ALCOHOLICS PAYS FOR ITSELF

In January, Welfare Commissioner A. E. Rose of Chicago reported on the first 6 months of operation of Portal House, Chicago's Treatment Center for Alcoholics. Patients are admitted to Portal House only if destitute and in need of public assistance. Of 102 admitted during 6 months all but 6 moved off public assistance, which leads the commissioner to note that the rehabilitation program has already more than paid for itself in savings of tax funds.

Two-thirds of the 102 patients have responded to treatment; 45 now being

handled as "outpatients" and 21 undergoing the first stages of treatment within the institution. The remaining one-third, 36 patients, failed to respond to treatment.

GONORRHEA AND THE PRIVATE PHYSICIAN

The Department of Public Health of the City and County of San Francisco has published a *Special Venereal Disease Bulletin* for July, 1948, on "The Diagnosis and Treatment of Gonorrhea in Private Practice." The authors are J. C. Geiger, M.D., Director of Public Health, and Richard A. Koch, M.D., Chief of the Division of Venereal Disease Control.

This *Bulletin* points up the strategic place of the private practitioner in the modern day treatment of gonorrhea. It is presented in a simple but comprehensive manner and the physician who reads it will have access to the established methods of treatment adapted for office use.

STURDY OAK FROM SMALL ACORN

The State Charities Aid Association (105 E. 22nd St., New York, N.Y.) took note of its 75th birthday recently in an attractive pamphlet, *A Small but Resolute Acorn on its 75th Birthday.*

There is a brief story, with pictures, of its various activities, child placing, mental hygiene, tuberculosis and public health, legislation, fund raising, etc. The emphasis is on today's picture but in the process a good deal of illustrious history is reviewed.

Lighthearted imagination has gone into both illustrations and writing, making the report delightful rather than stuffy. A good illustration of the fact that age need not be solemn.

A LOOK AT THE RECORD

Statistics so often give comfort to the enemy. But Don Griswold, M.D., Consultant in Public Health, Mississippi State Board of Health, has come up with some charts and figures whose significance is unmistakable. In a bar chart he relates the non-white maternal mortality to the percentage of patients admitted to antepartum nursing service.

In the full-time county health departments the higher the per cent admitted to antepartum nursing service the lower the maternal mortality. Where 80 per cent or more were so admitted the rate was 1.6 per 100,000, where fewer than 20 per cent the rate was 4.4, nearly three times as great. The correlation was almost uniform throughout. In counties with only part-time health services, where the number brought under care was not even known, the maternal mortality rate was 5.8.

This material was prepared for a film strip for general distribution.

SUMMARY OF MILK- AND WATER-BORNE DISEASE OUTBREAKS

A Summary of Disease Outbreaks from Water, Milk and Milk Products, Other Foods, and Undetermined Vehicles has been prepared by the Milk and Food Section of the Sanitary Engineering Division, U. S. Public Health Service, on the basis of reports submitted by state and municipal health departments. This summary gives the number of outbreaks, cases, and deaths reported as attributed to water, milk and milk products, other foods, and undetermined origins for the years 1938 to 1946 inclusive. Whereas a reduction of outbreaks, cases, and deaths is evident in those attributed to water and undetermined origin, those attributed to milk and milk products do not show any clear-cut trend. Those attributed to other foods indicate an increase, particularly in the number of outbreaks of illness.

Another report of the Milk and Food Section gives a summary of milk-borne disease outbreaks reported by state and local health authorities in the United

States for the years 1923 to 1946 inclusive. The diseases listed are typhoid, paratyphoid, scarlet fever and septic sore throat, diphtheria, dysentery, food poisoning and gastroenteritis, and undulant fever.

LABOR TO OPERATE A HOSPITAL COÖPERATIVELY

Under the title of "Duluth Unions to Run Own Hospital," a recent issue of *C.I.O. News* tells of the hospital to be organized and operated coöperatively in Duluth, Minn., by CIO, AFL, and the Railroad Brotherhoods. Because a brick hospital building was vacant in West Duluth, and because downtown Duluth hospitals were overcrowded and rates so high that "another baby knocks a family budget badly out of kilter," the union coöperative has taken over the hospital. It is expected to be in operation by September.

Life membership for a family is $100. Present plans indicate 75 days a year of hospital care including X-ray, operating room, etc., without extra charge, and free medical care. Charges, in addition to the life membership, have not yet been worked out.

PREMARITAL LAWS OF THE STATES

The January issue of *Pennsylvania's Health*, published monthly by the Pennsylvania State Health Department, is devoted to a summary and analysis of the state's premarital laws, together with a tabulation of similar laws in the other 47 states and the District of Columbia. This is a valuable service to Pennsylvania citizens particularly, and to those of other states as well.

MANY ARE THE USES OF PAPER CUPS

All you could possibly want to know about the size, shape, and varied uses of paper cups and containers is included in *Paper Cups and Containers At Your Service*. Attractively printed and illustrated, it is available from the Public Health Committee of the Paper Cup and Container Institute, 1790 Broadway, New York 19.

NEW ENGLAND PIONEERS IN INTEGRATING HOSPITAL FACILITIES

"Regionalization in New England," a staff report of the Association's Subcommittee on Medical Care, offers a detailed account of the Bingham Associates Fund program for regional integration of hospitals in Maine and Massachusetts. The program of the Bingham Associates, organized in the early thirties, is aimed at improving the quality of care in rural areas by making available the skills of larger centers through diagnostic aid, hospital extension services, and postgraduate education, using approximately the pattern projected by the Federal Hospital Survey and Construction Act. The report, which is thoroughly documented, may be obtained from the Subcommittee on Medical Care, American Public Health Association, P. O. Box 5998, Bethesda, Md.

DESCRIPTIVE BOOKLET ON NATIONAL INSTITUTES OF HEALTH PUBLISHED

The National Institutes of Health (the name was officially changed to the plural by the 80th Congress) is described in a booklet recently published by the Public Health Service, Federal Security Agency. A very well written and well illustrated booklet of 28 pages outlines the historical development of this unique enterprise, beginning with the laboratory set up in the Marine Hospital on Staten Island in 1887 when bacteriology was a new science, traces the direction of the laboratory through Drs. Joseph J. Kinyoun, Milton J. Rosenau, John F. Anderson, George W. McCoy, L. R. Thompson, and now the present Director, R. E. Dyer. It is stated that the National Institutes of Health laboratories and their field stations are now staffed with about 150

commissioned officers, 750 professional and scientific personnel, 75 trainees and fellows, and some 475 others who provide essential administrative, scientific, and maintenance services in support of the research. In the immediate future a still greater expansion of facilities will come with the construction of a Clinical Center providing 500 clinical research beds and associated laboratories. These facilities will offer research opportunities for well trained medical and scientific personnel.

Separate chapters describe the work of the National Cancer Institute, of the Division of Physiology, the Sections on Cardiovascular Diseases and Gerontology, Chemotherapy, Dental Research, Nutrition, and Pharmacology. The booklet describes the Division of Infectious Diseases, the Division of Tropical Diseases, the Biologics Control Laboratory, Laboratory of Physical Biology, the Division of Research Grants and Fellowships, and the newly authorized Clinical Center.

This booklet is to be recommended for those who visit the Institutes and would be an excellent source of information for high school students and those in college who are familiarizing themselves with federally supported research in public health.

ANNUAL REPORTS

The *1947 Annual Report of the John and Mary R. Markle Foundation* is the report of what this foundation is doing to break the bottleneck of man power shortage by appropriations for medical research in colleges and universities and by a system of subsidizing the training of young scientists. Nearly half a million dollars were appropriated in 1947, bringing to a total of about 11,000,000 appropriations made during 20 years of the Foundation's existence. 14 Wall Street, New York 5.

This is Our Task is an attractive 16 page leaflet on heavy paper, printed in gold and black, reporting on the activities of the Queensboro Tuberculosis and Health Association, 159–29 90th Ave., Jamaica 2, N. Y. For those who may not understand the expanse that is New York City, it should be said that Queens is the largest in area of the 5 boroughs of the city and the fourth largest in population. Its inhabitants number about one and a half million of the nearly 8 million that now make up the city.

A Backward Glance — A Forward Look is an annual report of one of the several district health committees in New York City. The area comprises 2 municipal health center districts, each with a population of more than 300,000. The report of the committee's activities in nutrition, health education, mass chest X-ray, etc., are briefly described in the 7 natural districts into which the area divides itself. An effective small compass report to the neighborhood on what its own committee is doing. Washington Heights—Riverside District Health Committee, 600 West 168th St., New York, N. Y.

Since the Merger is the title chosen for the Calhoun County, Michigan, Board of Health's 1947 annual report. The *Merger* refers to the consolidation of the health services of the City of Battle Creek and the rest of Calhoun County in 1944, resulting in a service unit of approximately 100,000 persons. Perhaps the most telling page is the double spread reporting that each department had some services, each was lacking some, and some were provided by neither department in 1944; in 1947 the whole county had a complete well rounded service. The report is short, done up in an attractive red cover, is printed in clear black and green on good quality paper. Its unspoken moral on almost every page is "In Union There is Strength."

The *1947 Annual Report of the National Committee for Mental Hygiene*

is a historical capsule as well as an annual report. Briefly and interestingly, it tells how the National Committee got where it is, how it fits in with other mental hygiene agencies, what it considers its job, and how it is doing that job. Pictograph illustrations help, as does a sweet humility in the writing. National Committee for Mental Hygiene, 1790 Broadway, New York 19.

DR. DOULL ON WHO

The U. S. Public Health Service has distributed, in mimeograph form, *Nations United for Health* by James A. Doull, Medical Director, Chief, Office of International Health Relations, U. S. Public Health Service. This is an address made at the May 29, 1948, Saturday morning Health Forum of the Harvard School of Public Health.

This gives a brief historical picture of modern international coöperation in health beginning with the Cholera Conference in Paris in 1857, carries it through the recent war period and the organization of the world health body. His "The Prospect" is a recital of the not too impossible goals WHO may be expected to achieve.

FIGHTING TUBERCULOSIS 40 YEARS IN WISCONSIN

The Crusader, the monthly organ of the Wisconsin Anti-Tuberculosis Association, uses its May issue to review the 40 years of its work in reducing tuberculosis in Wisconsin. In short, brightly written paragraphs, with excellent photographs, are told the stories of how the first sanatorium came to be, how public health nursing started, how a modern tuberculosis clinic developed, and finally how the "free care" law of 1945 came to be.

Oscar Lotz, M.D., has been the Executive Secretary of the Wisconsin Association since 1939, when he succeeded Hoyt E. Dearholt, M.D., who helped to found the Association in 1908 and served as its executive from 1910 to 1939.

WAR MEMORIAL THAT MAKES SENSE

During World War II, 32 members of the Medical Society of New York State lost their lives in service. At the Society's annual meeting in May, 1948, the House of Delegates voted a mandatory assessment of $12 per member to provide a sum of nearly a quarter of a million dollars as a memorial to these 32 physicians. The sum, to be used for the education of the 58 children of the deceased members, will provide $600 a year for collegiate and professional training from the end of high school up to 25 years of age.

LET CIVIL SERVICE DO IT

There are some problems it is better to sidestep than to meet head on. That would appear to be the lesson of *Your Patronage Problem and Civil Service* prepared by the Louisiana Department of State Civil Service for the State Legislature. Though addressed primarily to legislators, it can be applied by public health and other administrators. Its prescription for patronage headaches is to let Civil Service handle them. The pamphlet is simply written, amusingly illustrated in black and white drawings, and is an excellent down-to-earth exposition of the functions—and non-functions—of a Civil Service Department. Prepared by the Louisiana Department of Civil Service, Baton Rouge. No information as to whether it is available.

ERRATA

The June *Journal*, p. 876, credited the National Society for Crippled Children and Adults with publication of *The Problem of Cerebral Palsy*. This was in error. It was published by the Association for the Aid of Crippled Children and distributed by the National Society for Crippled Children and Adults.

BOOKS AND REPORTS

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted. All books reviewed in these columns may be purchased through the Book Service.

Diagnostic Procedures for Virus and Rickettsial Diseases—*Thomas Francis, Jr., M.D., Chairman, Committee on Diagnostic Procedures for Virus and Rickettsial Diseases. New York: American Public Health Association,* 1947. 347 pp. Price, $4.00.

It is a rare experience to read a book and feel that one has discovered the type of reference manual that has long been needed. This new addition to the publications of the American Public Health Association on laboratory methods falls into such a category. Investigations in the field of virus diseases have progressed so rapidly in recent years, and physicians are so constantly seeking the assistance of the laboratory for the solution of problems of diagnosis, that a reference source of this type is particularly timely.

The seventeen chapters are written by active investigators, who write with the authority that comes from experience. Methods are carefully described; precautions to be taken, limitations of techniques, and principles of interpretation are thoroughly discussed. It is of particular value that methods capable of routine application are differentiated from those that are still essentially research procedures. Instructions are given for the collection and transportation of suitable specimens. These are of great value for those laboratories that are not equipped to work with viruses.

The compendium type of manual naturally makes some sacrifice in terms of evenness and conciseness of chapters, the length of which is not always proportional to their importance. The chapter on poliomyelitis for example deals with techniques which are wholly beyond the reach of limited laboratories, and with dengue and phlebotomus fever no assistance can at present be offered to the clinician. The need for frequent and thorough revision in such a rapidly growing field is obvious, and in mumps for example, the necessary delay in publication has already resulted in the omission of important new developments.

The members of the committee that produced this book are to be congratulated. The publication is an exceptional accomplishment, and no active laboratory can safely be without this valuable reference. R. S. MUCKENFUSS

Vers la Médicine Sociale—*By René Sand. Paris: J. B. Bailliere et fils. Liège Editors Desoer,* 1948. 671 pp.

For forty years René Sand (now Professor of Social Medicine at Brussels) has been a leader—perhaps the outstanding leader—in developing a broad and vital conception of the importance of social and economic factors in the promotion of the public health.

The term "social medicine" is difficult to define. In his introduction, Dr. Sand says that the art of prevention and of cure is "individual medicine" when applied to one human being alone, "public medicine" when applied to the whole population, and "social medicine" when applied to individuals and classes whose conditions of living require special social measures. A more formal definition is presented near the end of his volume in the following

terms: "Social medicine is the art of prevention and of cure, considered (in its scientific principles as well as in its individual and collective applications) from the point of view of the reciprocal relations which relate the health of men to the conditions of their life."

This book is in the main historical and is written with a depth of scholarship and a width of vision which has not before been achieved in this field. The author is equally at home in ancient Rome and in 20th century New Zealand. He cites Egyptian records of 3000 B.C. and the Constitution of the World Health Organization. His choice of salient events and of outstanding leaders is sound and acute—his source references, representative of every country and of every age. The volume is an invaluable and a definitive work of reference in its field.

Major chapters deal with the history of the medical profession in its various social and economic relations; hospitals, out-patient services and social services; personal hygiene; public hygiene; social hygiene; occupational hygiene; public assistance; and the basic sciences relating to men (demography, anthropometry, psychology, sociology, and the like). The chapter on Social Hygiene includes such subjects as maternal and infant and school health, and the control of tuberculosis, venereal diseases, mental diseases, degenerative diseases, etc.; so that Sand's "public hygiene" and "social hygiene" are both aspects of what we in this country call "public health."

One of the most suggestive discussions to workers in our field is the chapter on "Assistance" (which is so much less offensive a term than "Poor Relief") because this is an area with which most of us are unfamiliar. Particularly illuminating is the following list of recent trends in social service toward increasing emphasis on: (1) active participation by the beneficiaries in providing such service for themselves; (2) utilization of preventive rather than merely palliative or curative means; (3) application of psychological medicine and reëducational techniques; (4) developing familial rather than purely individual action; (5) development of generalized assistance (pensions, social insurance, family allowance) rather than individual doles; (6) utilization of public rather than private agencies; and (7) replacement of empirical by scientific procedures. This is a far cry from traditional "poor relief"!

In a final chapter, Dr. Sand reviews 20th century advances of social medicine in Germany and Austria, France, Belgium, the Netherlands, Italy, Czechoslovakia, Romania, Jugo Slavia, Great Britain and its dominions, Eire, the United States, and Latin America, as usual with keen and sound perception of major trends.

To this point, the book is mainly historical and constitutes a work of reference which will be indispensable to every serious student of the phases of social progress with which it deals. To the reviewer, however, the best part of the whole volume is the last 30 pages, in which the author gives us his own views on the characteristics, fields, frontiers, and methods of social medicine and of the relations of social medicine to society as a whole and to the individual human being. We hope Dr. Sand will expand this section of his book to make a new volume. "Social medicine" has been discovered, of late, in England and the United States, with an enthusiasm which is gratifying; but the safest guide for the future is one who understands the past as thoroughly as René Sand. C.-E. A. WINSLOW

The Use of Aircraft in the Control of Mosquitoes — *Sponsored by the American Mosquito Control Association, T. D. Mulhern, Sec'y-Treas. New Bruns-*

wick, N. J., A.M.C.A. Bull. No. 1, 1948. 46 pp., 45 figs. Price, $1.50.

Engineers, public health workers, and entomologists alike will welcome the appearance of this authoritative, up-to-the-minute brochure. The successful and spectacular use of aircraft during the war in the control of disease-bearing insects has given tremendous impetus to aerial attack on various insect problems under peacetime conditions.

There has been much loose thinking and talking about the aerial application of insecticides, and some misuse of aircraft in combating insect pests. This compendium of information dealing with all aspects of the subject covered by the title—and more—should help put us straight on many matters relating to this tremendously interesting and important activity.

The bulletin, prepared through the joint efforts of leading engineers, entomologists, wildlife experts, pilots, and directors of mosquito control projects, and edited by Dr. Paul F. Russel and others, is crammed with useful information. Not only does it meet the needs of those concerned with the use of aircraft in fighting mosquitoes but it will be very helpful to anyone employing aircraft in any insect control operation.

It is important that the public, and especially those employed in or considering the use of aircraft in applying insecticides, recognize that the control of insect pests and disease carriers involves much more than ability to fly an airplane. This publication helps to bring out the many factors that must be considered and supplies information which will help overcome difficulties and avoid serious mistakes.

Brief chapters are devoted to the history of the use of airplanes in mosquito control, types of aircraft and equipment used, DDT formulations and specifications, operational procedures, situations in which aircraft are useful, appraisal of results, precautions to be taken against injurious effects, public relations, legislation and liability, and civil air regulations. Numerous bibliographical references, a list of dealers in DDT insecticides, and of aircraft spraying and dusting services are included.

Forty-five half-tones and diagrams of aircraft and insecticide dispersing equipment form an important part of the publication. FRED C. BISHOPP

Milk Products—*By William Clunie Harvey, M.D., D.P.H., F.R.San.I., and Harry Hill, F.R.San.I., A.M.I.S.E., F.S.I.A. (2nd ed.). London: H. K. Lewis & Co., Ltd.,* 1948. viii + 343 pp. + 80 illus. Price, 30s.

The authors have discussed on 328 pages many of the sanitary and manufacturing problems connected with seven dairy products, viz., ice cream, cream, butter (and margarine), cheese, condensed milk, evaporated milk, and dried milk. In the eighth and last chapter, 20 pages are devoted to special milk drinks, including fermented milk, junket, whey and lactalbumin foods, malted milk, and chocolate milk.

After a historical and/or introductory treatise, the composition and food value of each item is considered. Manufacturing processes are described in detail in so far as pages will permit, associated with which are 80 illustrations of equipment. Sanitation is discussed in terms of (1) general contamination, (2) specific infections and digestive disturbances, (3) appropriate means for their prevention, and (4) microbiological methods for the detection and determination of the several contaminants. Selected procedures for chemical analysis are described. Each chapter contains copies and/or excerpts of legislation, mostly of British origin, for guidance of the control official and the manufacturer with respect to the sanitary care and the chemical composition required for each food.

The subject matter is reasonably well

organized with subtitles clearly shown in bold face. The printing is clear and the diction is unmistakable. Specific references to original documentary evidence concerning infections generally have been omitted. Errors of fact are the exception. Although elemental in some respects, the book can be recommended for student reference use and for guidance of commercial interests who desire general information. Like most information of this type when assembled in book form, it becomes historical.

A. H. ROBERTSON

Practical Food Inspection — *By C. R. A. Martin. (3rd. ed.) London: H. K. Lewis & Co., Ltd.*, 1948. Vol. I, 316 pp. Vol. II, 284 pp. Price, 18s. net each.

Written presumably for use in the British Isles only for the "lay food inspectors," these two volumes are unique in several ways. Quite an amount of the information in Volume I, *Meat Inspection*, agrees with the information published as regulations governing meat inspection of the U.S.D.A., January, 1947, issue. (U. S. Government Printing Office); there is a surprising amount of information in Volume II, *Fish, Poultry, and other Foods*, that would be valuable to state, city or county regulatory food officials or sanitarians of the U. S.; there is no bibliography in either volume; and there is no mention made of any authoritative source from the Continent or the United States.

Some of the statements in both of the volumes have to be taken with several grains of salt. Examples of such statements are "The effects of refrigeration upon meat, as regards nutritive value, have not been the subject of reliable tests, but all are agreed that there is an impairment of the digestibility of both muscle and fat, particularly the latter, and also an absence of certain tissue-building substances in the meat juices, which are present in the meat of home-killed animals"; and "Poisonous fungi can be distinguished from edible mushrooms by their pale-brown colour."

Volume I—*Meat Inspection.* The nine chapters of this volume deal with Physiology and Comparative Anatomy; Antemortem Inspection; Slaughtering; A System of Meat Inspection; Physiological Abnormalities; Pathological Abnormalities; Infectious Diseases; Parasites; and Preservation of Meat. Each is treated from the point of view of the experienced lay inspector operating as one who is enforcing the meat laws of Great Britain. Much of the basic information is accurate but if used by American inspectors, cross-reference must be made to the Federal Meat Inspection Act and Regulations.

Volume II—*Fish, Poultry and Other Foods.* The eight chapters in this volume discuss Fish, Poultry, and Game; Fruit, Vegetables, and Cereals; Canned Foods; Milk and Milk Products; Miscellaneous Foods; Food Poisoning; and Legal Procedure.

The chapter on fish is excellent, gives salient points concerning detection of staling and spoilage, and describes a number of seafoods common to the British Isles and many to this country. Some diseases of poultry are described in Chapter II and various types of game, including the ptarmigan (page 66) are described; but the only inspection data are " . . . it is the usual practice to seize game that is maggoty, and the flesh green, soft, flabby, and putrid"!

In the chapter on fruits and vegetables this statement appears, "Insects and their excrements may affect the taste and appearance of flour." Many of the tips on the inspection of canned foods in Chapter IV are good and the several pages devoted to this subject are worth while. The chapters on Milk and Milk Products and Miscellaneous Foods are interesting reading. Pasteurization is described in ten pages, and ice

cream in four pages, suprisingly brought up-to-date.

The chapter on food poisoning deals almost solely with bacterial infections; chemicals and other causes are mentioned however, in the opening paragraph, and the chapter on legal procedure is interesting and some of the sections of England's food laws could well be adopted in this country.

There are ample illustrations in each chapter. The books are bound attractively and the printing is readable. Considering that there are relatively few books on the subject of practical food inspections, these volumes may be of value to the health officer and his sanitarians. FERDINAND A. KORFF

Nutrition and the Public Health: A Study Guide — *By Adelia M. Beeuwkes, M.S., and John J. Hanlon, M.D., M.P.H. Ann Arbor, Mich.: The Overbeck Company,* 1947. 120 pp. Price, $2.50.

This manual, which is offered to students of public health as an overview of nutrition, is organized into twenty-seven chapters plus supplementary and bibliographical material. Approximately half of the pages are devoted to "The Science of Nutrition" and the remaining to public health aspects and supplementary material. Granted that some historical interest may be lost by the necessary condensation, the scientific material is not oversimplified, and numerous applications of nutrition to public health are given consideration. The manual fulfils its objective: "to present the student of public health with a framework of the basic knowledge needed to appreciate the relation of nutrition to total health." This reviewer sees an equally helpful use for public health workers in the carefully selected bibliography and the nutrition education sources included in the supplementary material. The ideas and suggested pattern in chapters XXIII and XXIV, "The Place of Nutrition in the Public Health Program," and "A Suggested Nutrition Program for a State Department of Health," will be of interest to health officers as well as to students of public health.

HAROLD R. SANDSTEAD

Radio Manual—*A Guide to Broadcasting for Mouth Health Education. New York: Oral Hygiene Committee of Greater New York,* 1947. 320 pp. Price, $4.00.

The first 260 pages of this book consist of radio talks and interviews on mouth health, selected from among those broadcast by speakers sponsored by the committee during the interval between the first edition of this book in 1939, and the current volume. These talks represent various phases of mouth hygiene, dentistry, an interpretation of the dental profession to the public. The talks contain much information of great value to the student of mouth hygiene, and should be excellent source material for those who are already motivated by personal problems or other driving force to seek information in this field. As examples of good radio, they could be much improved. They are too professionally self-conscious, too much concerned with what dentists want the people to know, and not enough with what people want to know. The two dissertations about the American Dental Association, which head the section on talks, are excellent in themselves, but they would not appeal to a radio listener unless he were a dentist or a relative of a dentist. The use of the interview format is usually stilted, unnatural and forced, rather than easy-to-listen-to interchange. There is scarcely a ray of humor to relieve the monotonous repetition of the details of mouth pathology. Most of these talks and interviews could have benefited from the attentions of writers more skilled in radio.

The second part consists of advice to dentists about the facts of radio. This is a satisfactory explanatory essay, though highly conservative. It stresses dignity of the profession, perhaps above the desirability of having a large and interested audience. It condemns commercial sponsorship, whereas the trend is toward greater coöperation with appropriate commercial sponsors, without loss of professional integrity and with the advantages of broadcasting technics which help to attract listeners.

Possibly the most significant revelation in the book is the tremendous amount of labor and coöperation which lies behind it. For this, great credit is due to the dental societies and the dentists of Greater New York who have made possible the Oral Hygiene Committee.

W. W. BAUER

Say It With Figures—*By Hans Zeisel, New York: Harper,* 1947. 250 pp. Price, $2.50.

While this is primarily a manual for statisticians in the field of consumer and opinion research, it is a valuable text on the science of assembling and using social statistics of many kinds.

Public health agencies, both official and voluntary, must depend upon public support and understanding. It is useful for them to measure, therefore, from time to time, public knowledge and attitudes, and this text describes how to use data which may be accumulated for this purpose so that they will not yield spurious conclusions. Also health agencies sometimes need to evaluate the public acceptance of a given campaign or study, the effects of a particular program of health education. For the latter purpose, especially, the description of the panel technique which this book gives is useful. This technique differs from the customary polling of opinion of selected cross-sections at various times by interviewing the same group at different intervals. Many of the techniques used by advertisers to estimate the effect of their advertising are equally adaptable to the health educator for ascertaining the effect of his educational program. Likewise the techniques of market research used by manufacturers to estimate the probable need of or the likely acceptance of their products are equally adaptable to health officers for the same purpose. Heretofore health agencies have been prone to rely rather on morbidity and mortality reports as guides to practice. These reports, however, reflect failures and only by inference do they indicate some of the existing problems.

The methods of statistical analysis outlined present nothing new to those skilled in the science of statistics except to illustrate how the principles of that science may be applied to the analysis of certain social situations with which the vital statistician is not usually accustomed to deal. For the imaginative health officer and health educator, it suggests exciting possibilities of a new approach to ancient problems.

HOMER N. CALVER

Russell Sage Foundation, 1907–1946. *(2 Volumes.)—By John M. Glenn, Lilian Brandt, and F. Emerson Andrews. New York: Russell Sage Foundation,* 1947. 746 pp. Price, $5.00.

The Russell Sage Foundation, having discontinued the policy of making grants to outside agencies, has presented to the public an informative review of the grants in aid—totalling over nine million dollars—made to 119 agencies and special projects over a period of forty years. Support has been given in widely diversified areas of the general field of social work, including tuberculosis and child hygiene, as well as education, recreation, city planning, the technique of surveys and exhibits, industrial relations and delinquency. The record is impressive and inspiring.

C.-E. A. WINSLOW

Public Health in Foreign Periodicals

GEORGE ROSEN, M.D., PH.D.

EPIDEMIOLOGY is not concerned simply with individual sick people, but rather with all those factors and conditions that join together to produce disease in groups of individuals. This is already evident in the Hippocratic work *On Airs, Waters and Places,* which may be regarded as the first treatise on epidemiology. Interesting examples of the epidemiological approach are provided by a number of recent articles in foreign publications.

NATIVE CUSTOMS AND THE EPIDEMIOLOGY OF MALARIA IN SPANISH MOROCCO

The prevalence of malaria in Spanish Morocco is dependent on two sets of factors.[1] On the one hand, conditions favorable to anopheline development exist from early spring to late autumn throughout the entire territory wherever there are permanent or temporary collections of water. On the other hand, the customs and mode of life of the inhabitants tend to exert both favorable and unfavorable effects on the prevalence and spread of malaria. Ignorance, defective nutrition, inadequate treatment or complete lack of medical care, and poor living conditions favor the persistence and extension of the disease. A very important factor in the maintenance of endemic malaria is the establishment of military camps near native rural villages, and near breeding places of anophelines. As factors tending to limit the spread of malaria, Conillera mentions the proximity of cattle (leading to mosquito deviation), the location of villages in the highlands, and an apparent development by the adult natives of a kind of immunity. This is not uncommon in endemic areas where the greater morbidity is found among infants and young children. In conclusion, it is suggested that factors such as those mentioned above must be taken completely into account before any measures for the control of malaria are undertaken.

EPIDEMIOLOGY OF TERTIAN MALARIA IN FINLAND DURING 1941–1945

Malaria is world-wide in its distribution and occurs in countries of northern Europe. Hernberg offers the experience with malaria in Finland during the war years.[2] Malaria was not common in Finland before the war. Severe outbreaks had occurred during the 19th century and early in the present century. Following the First World War malaria spread northward as far as the city of Archangel, and cases were reported from other parts of northern Europe. In Finland, 468 cases were recorded. This epidemic wave subsided, however, and in 1938 only 16 cases were reported. Of these, 12 were from the province of Viipuri in southeastern Finland adjoining Russia.

During the recent war, cases of malaria appeared in large numbers among Finnish troops. In 1942, 583 cases were reported; in 1943, there were 262 cases; and in 1944, 892 cases. A lesser number of civilian cases was reported and these are regarded as having been communicated from infected soldiers. Hernberg asserts that Soviet troops were the source of infection, but as the disease occurred principally on the Karelian Isthmus where it had previously been endemic one doubts whether this assertion is warranted. Furthermore, it should be noted that

no antimalarial prophylaxis was employed in the Finnish Army. The disease is benign in character and is due to *Plasmodium vivax*. The apparent vector in Finland is *Anopheles maculipennis*.

While studying cases of malaria in 1945, Hernberg found that these were almost exclusively men who had performed military service in malarious areas during the preceding summer. As the possibility of relapse was excluded, he inferred that the disease became manifest after an incubation period of 9 months. It is believed that the malarial parasite remains quiescent in the reticulo-endothelial system until spring. In this connection, it is of interest to note that in the Netherlands, *P. vivax*, which is prevalent, has a tendency to remain latent for many months after the sporozoites have entered the human body through the bite of an Anopheles mosquito. At the same time it should be pointed out that one cannot entirely exclude possible infection by hibernating mosquitoes, despite the author's belief to the contrary.

MEASLES EPIDEMICS IN HELSINKI, 1919–1944

Forsius made a statistical study of the epidemics of measles that had occurred in Helsinki from 1919 to 1944.[3] During this period there were seven epidemics comprising a total of 12,831 cases. Among the cases in these epidemics, 3.2 to 6.8 per cent were over 18 years of age. The oldest reported patient was 58 years of age, the youngest 9 days. Of the patients over 18 years old, many were rural inhabitants who had moved to the city. It is of interest to note that the incidence curve for measles among children of school and preschool age showed a steep rise at the beginning of the epidemics, while among infants and youths the peak of the curve occurred toward the end of the epidemics. Infants during the first half-year of life were immune to infection. During the measles epidemics fresh cases of tuberculosis were found to increase by 34.9 per cent. Nevertheless, there was no increase in cases of tubercular meningitis.

EPIDEMIOLOGY OF BRUCELLOSIS IN ARGENTINA

Investigation of brucellosis in Argentina began in 1931 at the Malbrán Bacteriological Institute.[4] It was soon found that in large areas caprine, bovine, and porcine brucellosis existed as an indigenous disease. Since then, studies have shown that *Brucella* infection exists in all the Argentine provinces between the twenty-second and forty-sixth parallels, southern latitude.

Up to the present, 2,430 cases have been reported. Three-quarters of the total incidence was in males. The age range of these cases was from 8 months to 82 years, although young adults predominated. Most of the cases are occupational in origin. In the plains area of Argentina, the chief source of infection is to be found in hogs and cattle, whereas in the Andean region goats are almost solely responsible. Direct human transmission is rare in both rural and urban districts.

In urban communities human brucellosis may arise from a variety of sources. Cases have been traced to direct contact in slaughterhouses, or to attendance in such infected places as slaughterhouses by workers such as painters, masons, or mechanics. Others are due to the consumption of raw or inadequately pasteurized milk; of infected milk products, particularly fresh cheese made from goat milk; or of insufficiently cooked meat or viscera of infected animals. Incidental laboratory infections, and the tasting of raw cream before making butter account for other cases. Interesting is the mention of sexual intercourse as a source

of human infection; no substantiating data are offered.

In rural districts, infection occurs chiefly in the case of certain occupational activities. Among these may be mentioned the milking of infected animals, the handling of aborted fetuses, or the removal of placental remnants following abortion.

The disease occurs at all seasons of the year, but is more common during the spring and summer.

EPIDEMIOLOGY OF TUBERCULOSIS IN CONCEPCIÓN, CHILE

As in other Chilean cities, the incidence of tuberculosis in Concepción is high.[5] In fact, the mortality rate is even higher than the average for Chile as a whole. Apart from the diseases of childhood, in 1945, tuberculosis was the leading cause of death in the population as a whole. Among the preschool and school age groups, the mortality rate was higher for the females than for the males. Over the age of 25, however, the female mortality rate dropped below the male rate.

As might be expected, Mantoux tests show a high rate of infection in the population. Between 3.7 and 5 per cent of the population of Concepción are estimated to have active tuberculosis. Yet, it is noteworthy that in 1945, only 26.5 per cent of the total deaths occurred in a hospital, while the other 73.5 per cent occurred at home. The migration of young susceptibles from rural areas to the city in quest of industrial employment is adduced to explain the high mortality.

To combat this situation, it is proposed to coördinate all health services, to employ mass radiography, to provide enough hospital beds for active open cases, to carry out Mantoux tests in order to select those cases suitable for BCG vaccination, to carry on an intensive campaign of health education, and in conjunction with this campaign to have home visiting by nurses who will teach personal hygiene.

A NEW EPIDEMIC OF TULAREMIA AT LÜLEBURGAZ IN EUROPEAN TURKEY

Tularemia was first recognized in Turkey in 1936 at Lüleburgaz in Thrace.[6] In the same year the disease was also reported from central Anatolia, and in 1938 from eastern Anatolia.[6] No further outbreaks of tularemia were reported until 1945, when 18 cases occurred at Lüleburgaz, 15 in military garrison and 3 among the civilian population.

Tularemia has long been endemic among the civilian population of Lüleburgaz. However, the disease occurred in such a mild form that medical assistance was rarely needed. After recognition of the presence of tularemia in Turkey in 1936, investigation established its existence throughout Thrace.

The epidemiology of the disease in Turkey has not been explained. It has been suggested that transmission is possible through *Ornithodorus lahorensis*, a tick that is widespread in Turkey. Another suggestion has been that the eating of infected animals, hares or quails, or the drinking of water contaminated by the droppings of quails, may be responsible for its spread. All efforts to obtain evidence on the role of ectoparasite or of rodents in the 1945 outbreak at Lüleburgaz were in vain. It is worth noting, however, that all the cases seemed to be connected in some way with a small stream named Kaymarca. In 1937, it had been possible to infect guinea pigs with water from this stream. All the patients in the 1945 outbreak had been in contact with this water; after it had been declared out of bounds for the soldiers, the epidemic among them ceased.

POLIOMYELITIS IN BULGARIA FROM 1931 TO 1945

Poliomyelitis has been endemic in

Bulgaria, small numbers of cases having been reported as occurring during all seasons.[7] The maximal incidence was found in October. One hundred and twenty cases were reported in 1939, and 72 in 1940. In 1941, however, there was a sudden increase in the incidence of the disease; 471 cases were reported. Cases were more common in rural villages than in towns and cities. To explain this increase it is suggested that more virulent strains of the causative virus were introduced by German troops that passed through Bulgaria in 1941. Obviously, a hypothesis of this kind could hardly be verified. After 1941, the incidence of poliomyelitis dropped again, but it still remains higher than before the war.

SWISS MEDICAL EXPERIENCE WITH NUTRITION DURING THE WAR

Kapp shows that food resources in Switzerland were managed in the best possible way during 1939–1944.[8] The rationing scheme employed bread, milk, and potatoes as the basic foods. Special account was taken of the needs of children and of workers performing heavy labor. Throughout the entire period only a small number of pathological cases due to food shortage occurred. Some cases of osteoporosity were observed that were very likely due to lack of fat, and fat-soluble vitamins. There was also some increase in the frequency of anemia. All in all, however, the Swiss experience is claimed to have demonstrated the importance of scientific management of nutrition.

EPIDEMIOLOGICAL SIGNIFICANCE OF COCKROACHES IN DIPHTHERIA

A curious and interesting epidemiological note on diphtheria is reported from Holland.[9] In the course of a serious rise in the number of diphtheria carriers (patients and staff) in a large hospital, investigation revealed that cockroaches in the institution were harboring diphtheria bacilli. Measures were undertaken to exterminate the cockroaches, and as their number dropped there was a concomitant decrease in the number of diphtheria infections. Finally, these ceased completely.

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BOOKS RECEIVED

Listing in this column acknowledges the receipt of books and our appreciation to the senders. Space and the interests of readers will permit review of some, but not all, of the books listed.

THE ABNORMAL PERSONALITY. Robert W. White, Ph.D. New York: Ronald Press, 1948. 613 pp. Price, $5.00.

ADVANCES IN FOOD RESEARCH. Vol. I. Edited by E. M. Mrak and George F. Stewart. 459 pp. Price, $7.50.

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DISEASES AFFECTING THE VULVA. Elizabeth Hunt, B.A., M.D., Ch.B. (3rd ed. rev.) St. Louis: Mosby, 1948. 211 pp. 36 illus. Price $7.50.

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MONDAY MEETINGS

AMERICAN SCHOOL HEALTH ASSOCIATION

Talbot Hall, Mechanics Building

Presiding: DAVID VAN DER SLICE, M.D., *President.*

Trends in Health Education. A. O. DEWEESE, M.D.

Nutritional Appraisals of New York State School Children. FREDRICK J. STARE, M.D., PH.D.

The Physician and the School. DEAN F. SMILEY, M.D.

Cancer in the School Age Child. SIDNEY FARBER, M.D.

CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

Morning, Luncheon and Afternoon Sessions—Parlor A, Statler Hotel

Committee Reports on "Administration of Local Sanitation Problems"

CONFERENCE OF PROFESSORS OF PREVENTIVE MEDICINE

Morning and Afternoon Sessions—Reception Room, Mechanics Building

CONFERENCE OF STATE DIRECTORS OF HEALTH EDUCATION

Morning and Afternoon Sessions—Room C, Mechanics Building

CONFERENCE OF STATE AND PROVINCIAL PUBLIC HEALTH LABORATORY DIRECTORS

Morning and Afternoon Sessions—Paul Revere Hall, Mechanics Building

COUNCIL OF STATE DIRECTORS OF PUBLIC HEALTH NURSING

Morning and Afternoon Sessions—Paul Revere Banquet Hall, Mechanics Building

MONDAY MEETINGS

MASSACHUSETTS ORGANIZATION FOR PUBLIC HEALTH NURSING

Morning and Afternoon Sessions—Ball Room Foyer, Statler Hotel

PUBLIC HEALTH CANCER ASSOCIATION

Morning and Afternoon Sessions—Room A, Mechanics Building

PUBLIC HEALTH VETERINARIANS

Morning and Afternoon Sessions—Room 407, Statler Hotel

MONDAY, 12:30 P.M.

AMERICAN PUBLIC HEALTH ASSOCIATION GOVERNING COUNCIL

Luncheon and Afternoon Meeting—Georgian Room, Statler Hotel

MONDAY, 2:30 P.M.

AMERICAN SCHOOL HEALTH ASSOCIATION

Talbot Hall, Mechanics Building

Presiding: WILLIAM E. AYLING, M.D., *Vice-President.*

Presidential Address. DAVID VAN DER SLICE, M.D.

Reasons for Lack of Correction of Physical Defects. MARIE E. SWANSON, R.N.

Education for Mental Hygiene. WALTER S. HOLMLUND.

The Jackson's Mills Conference on Health Education, Physical Education and Recreation. HOLGER F. KILANDER, PH.D.

ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS

Room 405, Statler Hotel

CONFERENCE OF HEALTH MUSEUM EXECUTIVES

Parlor E, Statler Hotel

MONDAY, 2:30 P.M.

MASSACHUSETTS PUBLIC HEALTH ASSOCIATION

Salle Moderne, Statler Hotel

Presiding: VLADO A. GETTING, M.D.

Introductory Remarks: SENATOR RICHARD H. LEE.

Reports of Technical Committees:

Local Health. *Chairman,* HUGH R. LEAVELL, M.D.
Preventable Diseases. *Chairman,* CONRAD WESSELHOEFT, M.D.
Sanitation. *Chairman,* GORDON M. FAIR.
Maternal and Child Health. *Chairman,* WARREN R. SISSON, M.D.

Discussion: (Speakers to be anounced).

MONDAY, 5:00 P.M.

RECEPTION TO THE PRESIDENT OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

Imperial Ball Room, Statler Hotel, 5–7 P.M., Informal

MONDAY, 6:30 P.M.

ASSOCIATION OF MATERNAL AND CHILD HEALTH AND CRIPPLED CHILDREN'S DIRECTORS

Dinner and Evening Session—Parlor B, Statler Hotel

COMMITTEE ON CONSULTANTS OF THE NATIONAL SANITATION FOUNDATION

Dinner Session—Parlor C, Statler Hotel

ENGINEERING SECTION, CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS, AND CONFERENCE OF STATE SANITARY ENGINEERS

Annual Engineers' Stag Dinner, Georgian Room, Statler Hotel

"Bill" Orchard, Master of Ceremonies

PUBLIC HEALTH VETERINARIANS

Dinner and Evening Sessions—Parlor F, Statler Hotel

MONDAY, 8:30 P.M.

AMERICAN SCHOOL HEALTH ASSOCIATION

Evening Session—Parlor A, Statler Hotel

Presiding: DAVID VAN DER SLICE, M.D., AND CYRUS H. MAXWELL, M.D.

The Academy of Pediatrics' Study of Child Health Services. JOHN P. HUBBARD, M.D.

School Lighting. C. L. CROUCH.

St. Louis Study on Vision Testing. FRANKLIN M. FOOTE, M.D.

Use of Well Baby Clinic for Teaching Health and Child Care. THOMAS E. SHAFFER, M.D.

ASSOCIATION OF RESERVE OFFICERS OF THE U. S. PUBLIC HEALTH SERVICE

Evening Session—Ball Room Foyer, Statler Hotel

PUBLIC HEALTH EDUCATION

Evening Session—Room 405, Statler Hotel

Presiding: DONALD B. ARMSTRONG, M.D., *Chairman.*

Meeting of Section Council and Committee Chairmen.

SCHOOL HEALTH

Evening Session—Room 406, Statler Hotel

Presiding: JESSIE M. BIERMAN, M.D., *Chairman.*

Meeting of Section Council.

TUESDAY, 9:30 A.M.

DENTAL HEALTH

First Session—Reception Room, Mechanics Building

Presiding: KENNETH A. EASLICK, D.D.S.

Nutrition, Diet, and Dental Caries. (Speaker to be announced.)

Nutritional Deficiencies—An Appraisal of the Symptoms Appearing in Oral Soft and Supporting Structures. PAUL K. LOSCH, D.D.S.

Nutrition and Human Occlusion. CHARLES M. WALDO, D.D.S.

The Nutritionist—An Appraisal of Her Role in the Maintenance of Oral Health. (Speaker to be announced.)

TUESDAY, 9:30 A.M.

ENGINEERING SECTION AND CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

Joint Session—Georgian Room, Statler Hotel

Presiding: JOHN M. HEPLER AND CHARLES L. SENN.

HOUSING AND HEALTH

Sanitary Problems of the Dwelling. M. ALLEN POND, M.P.H.

The Appraisal of Substandard Housing. EMIL A. TIBONI.

Legal Control of Supbstandard Housing. SPENCER PARROTT.

The Provision of Good Housing. CATHERINE BAUER.

The Planned Community. ROBERT B. MITCHELL.

Panel Leader: C.-E. A. WINSLOW, DR.P.H.

Participants:

CHARLES L. SENN.
ABEL WOLMAN, DR.ENG.
HUGH POMEROY.
WILLIAM H. CARY, JR.
CHARLES A. REAGAN.
ARTHUR H. HERBERGER.
ROSS W. BUCK.

EPIDEMIOLOGY

First Session—Paul Revere Hall, Mechanics Building

Presiding: M. E. BARNES, M.D., *Chairman.*

Influenza in California, 1947–1948. GORDON MEIKLEJOHN, M.D.

Studies on Survival of Influenza Virus between Epidemics and Antigen Variance of the Virus. R. M. TAYLOR, M.D., D.P.H.

A Comparative Study of Reactions Following Inoculation with Red Cell Elution and Centrifuged Influenza Vaccines. JOSEPH F. SADUSK, JR., M.D.

The Influenza Information Center of the U. S. Public Health Service. JAMES T. CULBERTSON, PH.D.

The Importance of Antigenic Composition of Influenza Virus Vaccine in Protecting Against the Natural Disease. Observations during the Winter of 1947–1948. JONAS E. SALK, M.D., AND PHILIP C. SURIANO, 1st Lt., M.C.

Antibody Response to Multiple Injections of a Single Strain of Influenza Virus in Infants and Children. J. J. QUILLIGAN, JR.

TUESDAY, 9:30 A.M.

FOOD AND NUTRITION

First Session—Room A, Mechanics Building

Presiding: MARJORIE M. HESELTINE, *Chairman.*

FOOD PRODUCTION AND PROCESSING IN RELATION TO CONSERVATION OF NUTRIENTS

The Effects of Varieties, Soil, and Other Growing Factors on the Nutritive Value of Foods. OLIVE SHEETS, PH.D.

Nutrient Retention During Canned Food Processing and Production. EDWIN J. CAMERON, PH.D., ROBERT W. PILCHER, PH.D., AND LAVERNE E. CLIFCORN, PH.D.

The Effect of Freezing on the Nutritive Value of Foods. FAITH FENTON, PH.D.

The Effect of Curing and Canning on the Nutritive Value of Meat. H. E. ROBINSON, PH.D.

The Effect of Processing on the Nutritive Value of Milk and Milk Products. HENRY T. SCOTT, PH.D.

The Effect of Processing on Cereals and Bread. FREDERIC W. NORDSIEK, PH.D.

HEALTH OFFICERS

First Session—Grand Hall, Mechanics Building

Presiding: C. HOWE ELLER, M.D., *Chairman.*

ANNIVERSARY PROGRAM—150th YEAR, U. S. PUBLIC HEALTH SERVICE

Past and Future of Public Health Services. LEONARD A. SCHEELE, M.D.

Training of Health Man Power. (Speaker to be announced.)

Federal-State Coöperation in Public Health Service. (Speaker to be announced.)

New Frontiers in Research. MAURICE B. VISSCHER, M.D.

Community and Consumer. AGNES MEYER.

LABORATORY

First Session—Imperial Ball Room, Statler Hotel

Presiding: EDMUND K. KLINE, DR.P.H., *Chairman.*

Section Business.

Committee Reports.

Discussion of U. S. Public Health Service Influenza Control Program. JAMES T. CULBERTSON, PH.D.

Report of the Section Archivist. ANNA M. SEXTON.

The Laboratory Diagnosis of Tuberculosis. MARTIN CUMMINGS, M.D.

(Cont.)

TUESDAY, 9:30 A.M.

LABORATORY (Cont.)

The Limitations of Fluorescence Microscopy for the Detection of Acid-Fast Bacilli. HOWARD E. LIND, PH.D.

Laboratory Tests in Brucellosis. NORMAN B. MCCULLOUGH, PH.D., M.D.

An Evaluation of Diagnostic Methods in Chronic Brucellosis. CHARLES M. CARPENTER, M.D.

Chronic Brucellosis: The Unsatisfactory Status of Current Diagnostic Methods. HAROLD J. HARRIS, M.D.

The Laboratory Diagnoses of Mycoses. C. W. EMMONS, PH.D.

PUBLIC HEALTH EDUCATION

First Session—Paul Revere Banquet Hall, Mechanics Building

Presiding: A. HELEN MARTIKAINEN, *Vice-Chairman.*

STAFF RELATIONS OF THE HEALTH EDUCATOR *

A Program of In-service Training for Health Department Staff. ANN WILSON HAYNES.

Motivation in Health Education. IAGO GALDSTON, M.D.

Health Education—Through a Health Center. GERTRUDE E. FRIRES.

(Other speakers to be announced.)

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* A portfolio on Motivation in Health Education, prepared under the guidance of DR. IAGO GALDSTON, is on display in the Health Education and Publicity Headquarters.

PUBLIC HEALTH NURSING

First Session—Talbot Hall, Mechanics Building

Presiding: RUTH FREEMAN, R.N., *Chairman.*

INCREASING THE EXPERTNESS OF THE PUBLIC HEALTH NURSE

Use of University Facilities for Increasing Nursing Expertness. MARGARET S. TAYLOR, R.N.

Individual Guidance as a Means of Increasing Nursing Expertness. PEARL SHALIT, R.N.

On-the-job Training for Nurses without Specialized Public Health Training. CHRISTINE CAUSEY, R.N.

Building Expertness in a Clinical Field. EDNA BRANDT, R.N.

TUESDAY, 9:30 A.M.

SCHOOL HEALTH

First and Second Sessions—Rooms 405, 406, 407, and Salle Moderne, Statler Hotel

Presiding: JESSIE M. BIERMAN, M.D., *Chairman.*

ROUND TABLES ON SCHOOL HEALTH *

9:30–12:00
2:30– 3:45
Room 405, Statler — **School Health Councils—Their Organization, Operation and Relationship to Community Health Councils.**
Discussion Leader: JOHN L. MILLER, ED.D.

9:30–12:00
2:30– 3:45
Room 406, Statler — **In-service Training Courses in Health Education for Teachers.**
Discussion Leader: WARREN H. SOUTHWORTH, DR. P.H.

9:30–12:00
2:30– 3:45
Room 407, Statler — **Techniques of Counselling Children with Health Problems.**
Discussion Leader: RUTH STRANG, PH.D.

4:00 P.M.
Salle Moderne, Statler — **Summary Session.**

The capacity of each room is 40. First come; first served. These round tables will last all day. At 4:00 P.M., summaries of the three round tables will be presented at a general session.

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* Members of the Section will be interested to know that there is a special section in the Health Education and Publicity Headquarters devoted to materials on school health. In addition, consultants on special problems will be on hand every day from 9 to 10, 12 to 2, 4 to 5; other hours by appointment.

SUBCOMMITTEE ON MEDICAL CARE

First Session—Room B, Mechanics Building

Presiding: JOHN P. PETERS, M.D.

IMPROVING THE QUALITY OF MEDICAL CARE

By Training of Personnel. THOMAS D. DUBLIN, M.D., DR.P.H.

By Group Medical Practice. DEAN A. CLARK, M.D.

By Regionalization of Hospitals. ALBERT D. KAISER, M.D.

By Sound Principles of Administration. EDWIN F. DAILY, M.D.

TUESDAY, 9:30 A.M.

VITAL STATISTICS

First Session—Room C, Mechanics Building

Presiding: RUTH R. PUFFER, DR.P.H., *Chairman.*

BASIC DATA

International Adoption of Principles of Morbidity and Mortality Classification. W. THURBER FALES, SC.D., AND IWAO MORIYAMA, PH.D.

Plans for the 1950 Population Census. A. ROSS ECKLER, PH.D.

Morbidity Statistics Derived from Sickness Insurance. BARKEV SANDERS, PH.D.

The Need for Statistics of Marriage and Divorce. SAM C. NEWMAN, PH.D.

Section Business.

TUESDAY, 12:30 P.M.

ENGINEERING

Luncheon Session—Parlor A, Statler Hotel

Presiding: JOHN M. HEPLER, *Chairman.*

Section Business.

Committee Reports:

Conference of Educators in Environmental Sanitation. *Chairman,* ELLIS S. TISDALE.

Exploration of Research Needs (in the Field of Environmental Sanitation). *Chairman,* BLUCHER A. POOLE.

Municipal Public Health Engineering. *Chairman,* CHARLES L. SENN.

Rural Sanitation. *Chairman,* WILLIAM T. INGRAM.

School Sanitation. *Chairman,* HERBERT J. DUNSMORE.

Report of the Engineering Section Council. *Chairman,* JOHN M. HEPLER.

PUBLIC HEALTH NURSING

Luncheon Session—Ball Room Foyer, Statler Hotel

Presiding: RUTH FREEMAN, R.N., *Chairman.*

TUESDAY, 2:30 P.M.

DENTAL HEALTH SECTION AND AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Paul Revere Banquet Hall, Mechanics Building

Presiding: GEORGE A. NEVITT, D.D.S., *Chairman.*

A Good School Dental Health Program. A. HARRY OSTROW, D.D.S.

The Caries Problem of the School Child. KENNETH A. EASLICK, D.D.S.

Dental Caries Research Findings in a School Dental Program. WALTER J. PELTON, D.D.S.

The School Physician and the School Dental Health Problem. WILLIAM E. AYLING, M.D.

FOOD AND NUTRITION AND LABORATORY SECTIONS

Joint Session—Paul Revere Hall, Mechanics Building

Presiding: ARCHIE H. ROBERTSON, PH.D.

MILK

The Possible Significance of Milk and Water in the Spread of Virus Infections. GORDON C. BROWN, SC.D.

Comparative Study of Lancefield's Group "B" Streptococci of Human and Bovine Origin. A. POMALES-LEBRON, PH.D., AND P. MORALES-OTERO, M.D.

Direct Microscopic Clump Counts of Bacteria as Used to Control a Pasteurized Metropolitan Milk Supply. FRANK E. MOTT.

Quality Control of Milk and Dairy Products with Direct Microscopic and Swab Tests. C. W. ANDERSON AND N. O. GUNDERSEN, M.D.

Direct Microscopic Clump Counts of Pasteurized Milk by Carbolated Methylene Blue, Newman Lampert No. 2 and the Acid- and Water-Free Staining Procedures. B. S. LEVINE, PH.D., AND L. A. BLACK, PH.D.

Preliminary Report on Studies to Formulate a New Agar Medium for the Standard Plate Count of Dairy Products. LEON BUCHBINDER, PH.D.

An Improved Medium for the Enumeration of Bacteria in Milk and Milk Products. M. J. PELCZAR, PH.D., AND HARRIETTE D. VERA, PH.D.

FOOD AND NUTRITION

Second Session—Reception Room, Mechanics Building

Presiding: MARJORIE M. HESELTINE, *Chairman.*

NUTRITION IN PUBLIC HEALTH

A Nutrition Course for Students of Public Health. ADELIA M. BEEUWKES AND JOHN J. HANLON, M.D.

(Cont.)

TUESDAY, 2:30 P.M.

FOOD AND NUTRITION (Cont.)

Training of Nutritionists for Public Health. ELDA ROBB, PH.D.

Training Physicians for Public Health Nutrition. FREDRICK J. STARE, M.D., PH.D.

Nutrition Programs for State Health Departments—A Progress Report. GRACE A. GOLDSMITH, M.D.

HEALTH OFFICERS AND PUBLIC HEALTH NURSING SECTIONS

Joint Session—Grand Hall, Mechanics Building

Presiding: C. HOWE ELLER, M.D., AND RUTH FREEMAN, R.N.

PERSONNEL MANAGEMENT AND PROBLEMS

Panel Leader: HERMAN E. HILLEBOE, M.D.

Participants:

DOROTHY DEMING, R.N.

DOROTHY C. LOWMAN, R.N.

FANNY WARNCKE, R.N.

ROBERT G. WEBSTER.

DAVID LITTLEJOHN, M.D., DR.P.H.

BERWYN F. MATTISON, M.D.

ROY L. CLEERE, M.D.

INDUSTRIAL HYGIENE

First Session—Room C, Mechanics Building

Presiding: CARL M. PETERSON, M.D., *Chairman.*

MAXIMUM ALLOWABLE CONCENTRATIONS

Panel Leader and Participants (to be announced).

LABORATORY

Second Session—Room A, Mechanics Building

Presiding: EDMUND K. KLINE, DR.P.H., *Chairman.*

A Serologic Procedure in a Public Health Laboratory. DANIEL WIDELOCK, PH.D.

TUESDAY, 2:30 P.M.

LABORATORY (Cont.)

A Quantitative Turbidimetric Method for the Determination of Spinal Fluid Proteins. HILFRED N. BOSSAK, ARTHUR A. ROSENBERG, AND AD HARRIS.

Selection of Guinea Pig Complement from the Standpoint of Natural Antibodies. PAUL FUGAZZOTTO, PH.D.

Differentiation between Syphilitic and Non-syphilitic Serologic Reactions. REUBEN L. KAHN, D.SC.

Routine Antistreptolysin Titrations in a Hospital Laboratory. LEO CRAVITZ, DR.P.H., AND CHARLES L. STEINBERG, M.D.

Unusual Cultures Submitted to an Enteric Laboratory for Study. MACDONALD FULTON, PH.D., AND M. L. CHILTON.

A Public Health Rh Program on a State-wide Scale. CLIFFORD I. ARGALL.

MATERNAL AND CHILD HEALTH AND VITAL STATISTICS SECTIONS

Joint Session—Talbot Hall, Mechanics Building

Presiding: FORREST LINDER, PH.D., *Vice-Chairman.*

ADMINISTRATIVE USE OF RECORDS ROUND TABLE

The Philosophy of Records. PAUL M. DENSEN, D.SC.

Nursing. MARGARET G. ARNSTEIN, R.N.

Dental Health. JOHN W. KNUTSON, D.D.S., DR.P.H.

School Health. LEONA BAUMGARTNER, M.D., PH.D.

Maternal and Child Health. MYRON E. WEGMAN, M.D.

Federal Needs. EVELYN FLOOK.

SCHOOL HEALTH

CONTINUATION OF ROUND TABLES ON SCHOOL HEALTH

See page 1303.

TUESDAY, 2:30 P.M.

PUBLIC HEALTH EDUCATION

Second Session—Georgian Room, Statler Hotel

Presiding: DONALD A. DUKELOW, M.D., *Secretary.*

THE VOLUNTARY AGENCY IN HEALTH EDUCATION AND COMMUNITY ORGANIZATION

Council Programs Influencing the Health Education of the Public. JOHN W. FERREE, M.D.

Teamwork of Official and Voluntary Health Agencies and Non-Health Agencies in Health Education. HOWARD W. GREEN.

Community Organization for Health Education. CLAIR E. TURNER, DR.P.H., D.Sc.

Community Health Education in Hawaii. RAYMOND G. NEBELUNG, DR.P.H.

SUBCOMMITTEE ON MEDICAL CARE

Second Session—Room B, Mechanics Building

Presiding: HUGH R. LEAVELL, M.D.

MEDICAL CARE PROGRAMS: PROBLEMS AND METHODS

Effect of Rising Costs on Prepayment Plans. C. RUFUS ROREM, PH.D.

Administrative Problems of a Blue Shield Medical Service Plan. CHARLES G. HAYDEN, M.D.

Coöperation of Physicians and Consumers in a Group Health Association. MELVIN L. DOLLAR.

Utilization of Physicians', Nursing, and Hospital Services During a Two Year Period—Trinity Hospital Study. MARGARET C. KLEM.

A Pattern of Local Services in the Saskatchewan Health Program. FREDERICK D. MOTT, M.D.

TUESDAY, 6:30 P.M.

PUBLIC HEALTH EDUCATION

Dinner Session—Salle Moderne, Statler Hotel

Presiding: DONALD B. ARMSTRONG, M.D., *Chairman.*

Committee Reports.

Election of Officers.

Section Business.

Twenty-five Years of Public Health Education (Commemoration of the founding of the Section). H. E. KLEINSCHMIDT, M.D.

TUESDAY, 8:30 P.M.

FIRST GENERAL SESSION

Grand Hall, Mechanics Building

Presiding: MARTHA M. ELIOT, M.D., *President,* American Public Health Association.

Addresses of Welcome:

HONORABLE ROBERT F. BRADFORD, Governor of the Commonwealth of Massachusetts.

HONORABLE JAMES M. CURLEY, Mayor of the City of Boston.

JOHN H. CAULEY, M.D., Commissioner, Boston Health Department.

Presidential Address. The Cultivation of our Human Resources for Health in Tomorrow's World. MARTHA M. ELIOT, M.D.

Presentation of Sedgwick Memorial Medal Award..

WEDNESDAY, 8:00 A.M.

THE JOHNS HOPKINS UNIVERSITY ALUMNI

Breakfast Session—Salle Moderne, Statler Hotel

ALUMNI OF THE SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF NORTH CAROLINA

Breakfast Session—Hancock Room, Statler Hotel

GRADUATES' ORGANIZATION, SCHOOL OF HYGIENE, UNIVERSITY OF TORONTO

Breakfast Session—Parlor B, Statler Hotel

WEDNESDAY, 9:30 A.M.

EPIDEMIOLOGY

Second Session—Parlor A, Statler Hotel

Presiding: M. E. BARNES, M.D., *Chairman.*

The Possible Prevention of Gonorrhea with Penicillin Tablets. A Preliminary Report. HARRY EAGLE, M.D., A. V. GUDE, LT., j.g., M.C., U.S.N.R., G. E. BECKMAN, LT., j.g., M.C., U.S.N.R., GEORGE MASS, M.D., COMDR., M.C., U.S.N., J. J. SAPERO, M.D., CAPT., M.C., U.S.N., AND J. B. SHINDLEDECKER.

Contact Investigation of Syphilis—A Current Appraisal. JOSEPH S. SPOTO, M.D. AND ALBERT P. ISKRANT.

(Cont.)

WEDNESDAY, 9:30 A.M.

EPIDEMIOLOGY (Cont.)

Certain Phases of the Epidemiology of Salmonellosis and Shigellosis. JAMES WATT, M.D., DR.P.H.

Observations on the Epidemiology of Shigellosis Among Institutional Inmates in Puerto Rico. GUILLERMO ARBONA, M.D., AND LUIS GONZALES, PH.D.

Effect of Ultra-Violet Irradiation of Class Rooms on Spread of Mumps and Chicken Pox in Large Rural Central Schools. A Progress Report. ANNE M. BAHLKE, M.D., HILDA FREEMAN SILVERMAN, AND HOLLIS S. INGRAHAM, M.D.

BIOMETRICS SECTION OF THE AMERICAN STATISTICAL ASSOCIATION, BIOMETRICS SOCIETY, AND VITAL STATISTICS SECTION

Joint Session—Paul Revere Banquet Hall, Mechanics Building

Presiding: RUTH R. PUFFER, DR.P.H., *Chairman.*

MORBIDITY SURVEYS

ROUND TABLE

Moderator: GEORGE ST.J. PERROTT.

Opinion Poll Methods in Measuring Morbidity. GEORGE GALLUP.

Types of Morbidity Surveys. THEODORE D. WOOLSEY.

Sampling Methods as Applied to Morbidity Surveys. NATHAN KEYFITZ.

Contribution of the Survey Method to Epidemiology. ALEXANDER D. LANGMUIR, M.D.

Morbidity Sampling as a Function of the Health Department. HUNTINGTON WILLIAMS, M.D., DR.P.H.

WEDNESDAY, 9:30 A.M.

DENTAL HEALTH

Second Session—Parlor C, Statler Hotel

Presiding: GEORGE A. NEVITT, D.D.S., *Chairman.*

Neoplastic Lesions of Interest to the Dental Profession. FRANCIS P. MCCARTHY, M.D.

Prosthetic Replacement for Tissues Lost Through Cancerous Lesions. RALPH S. LLOYD, D.D.S.

The Dental Phases of the National Cancer Program. AUSTIN V. DEIBERT, M.D.

Simplified Case-finding Procedure for Congenital Syphilis. FRANK P. BERTRAM, D.D.S.

Section Business.

ENGINEERING SECTION AND INTER-AMERICAN ASSOCIATION OF SANITARY ENGINEERING

Joint Session—Reception Room, Mechanics Building

Presiding: JOHN M. HEPLER AND CLARENCE I. STERLING, JR.

Sanitary Aspects of the WHO Program. ABEL WOLMAN, DR. ENG.

Arctic Sanitation. WILLIAM HARDENBERGH.

Public Health Engineering in Foreign Areas. JOHN M. HENDERSON.

Public Health Engineering in Bolivia. PAUL S. FOX.

Panel Discussion

Panel Leader and Participants to be announced.

Professional Education and Training Given Sanitation Personnel in Latin American Republics. GAYLORD W. ANDERSON, M.D.

Panel Discussion

Panel Leader and Participants to be announced.

The Sanitation Problems of Persons Encountered by UNRRA. FREDERICK F. ALDRIDGE.

Military Sanitation. LEONARD L. TRAGER.

WEDNESDAY, 9:30 A.M.

FOOD AND NUTRITION SECTION AND THE AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Talbot Hall, Mechanics Building

Presiding: MARJORIE M. HESELTINE AND DAVID VAN DER SLICE, M.D.

CHILD NUTRITION

The Relation of Nutrition to Infection in Children. JUNIUS M. RAWLINGS, M.D.

A Nutrition Study of a Group of Burlington, Vermont, School Children. H. B. PIERCE, JOHN H. BROWE, M.D., R. F. KRAUSE, PH.D., SUSAN B. MERROW, AND C. A. NEWHALL, M.D.

Nutritional Reconditioning of Malnourished Children. ELSIE MOYER.

Discussion: **Educational Implications of Clinical and Research Findings.** ELIZABETH LOCKWOOD, DR.P.H.

HEALTH OFFICERS AND MATERNAL AND CHILD HEALTH SECTIONS

Joint Session—Paul Revere Hall, Mechanics Building

Presiding: C. HOWE ELLER, M.D., AND A. L. VAN HORN, M.D.

PREMATURITY

Hospital Fatality Rates for Premature Infants. KATHERINE BAIN, M.D., JOHN P. HUBBARD, M.D., AND MARYLAND Y. PENNELL.

Hospital Facilities for Premature Infants in New York State. EDWARD R. SCHLESINGER, M.D., AND ELIZABETH PARKHURST.

Premature Care in New York City Under EMIC. HELEN M. WALLACE, M.D., AND LEONA BAUMGARTNER, M.D., PH.D.

Colorado's Premature Infant Care Program. JOHN A. LICHTY, M.D.

Louisiana's Premature Care Program. SIDNEY S. CHIPMAN, M.D., AND WALDO L. TREUTING, M.D.

INDUSTRIAL HYGIENE

Second Session—Room C, Mechanics Building

Presiding: CARL M. PETERSON, M.D., *Chairman.*

Poisoning Due to Ingestion of Wax Crayons. H. BRIEGER, M.D.

The Health of Open Hearth Steelworkers Exposed to Sodium Fluoride. DOHRMAN H. BYERS.

WEDNESDAY, 9:30 A.M.

INDUSTRIAL HYGIENE (Cont.)

The Dust Environment of the Cemented Tungsten Carbide Industry, with Particular Reference to Cobalt. LAWRENCE T. FAIRHALL, PH.D.

Physiological Response of Man to Ammonia in Low Concentrations. LESLIE SILVERMAN, SC.D., AND JAMES L. WHITTENBERGER, M.D.

Shavers Disease. ARTHUR J. VORWALD, M.D.

LABORATORY

Third Session—Georgian Room, Statler Hotel

Presiding: EDMUND K. KLINE, DR.P.H., *Chairman.*

Section Business.

A Method for the Bacteriological Examination of Edible Fat Preparations. BERYL F. CAPPS, MARY K. WOLLAM, AND NORMAN L. HOBBS.

The Laboratory Aspects of Cancer Treatment with Radioactive Isotopes. SHIELDS WARREN, M.D., AND JOHN Z. BOWERS, M.D.

A Comparison of *H. pertussis* Cultures by Mouse Protection and Virulence Tests. PEARL L. KENDRICK, SC.D., ELAINE L. UPDYKE, SC.D., AND GRACE ELDERING, SC.D.

Free Halogens: A Comparative Study of Their Efficiencies as Bactericidal Agents. LOUIS GERSHENFELD, D.SC., AND BERNARD WITLIN, D.SC.

Synergistic Action of Antibiotics in Experimental Infections. C. W. PRICE, PH.D., W. A. RANDALL, PH.D., HENRY WELCH, PH.D., AND V. L. CHANDLER, PH.D.

Studies on the Morphology and Antibiotic Resistance of *Haemophilus Influenzae*. GEORGE E. FOLEY, MARY MCGARRY, M.D., AND HARRY SHWACHMAN, M.D.

In Vitro Antibiotic Effects on *Haemophilus ducreyi*. D. G. WETHERBEE, 1st LT., M.C., MARJORIE A. HENKE, ROBERT I. ANDERSON, 1st LT., M.S.C., E. J. PULASKI, MAJ., M.C., AND D. M. KUHNS, COL., M.C.

WEDNESDAY, 9:30 A.M.

PUBLIC HEALTH EDUCATION

Fourth Session—Room A, Mechanics Building

Presiding: DONALD B. ARMSTRONG, M.D., *Chairman.*

ADMINISTRATIVE PROBLEMS IN PUBLIC HEALTH EDUCATION

Geographical Variations in the Educational Approach to Public Health Problems. (Speaker to be announced.)

Solving Health Education Problems Within a Region. HOWARD W. LUNDY, DR.P.H.

Reports of Regional Chairmen.

Reports of Cross-Section Committee Chairmen.

Discussion.

PUBLIC HEALTH NURSING SECTION AND SUBCOMMITTEE ON MEDICAL CARE

Joint Session—Grand Hall, Mechanics Building

Presiding: EDWARD S. ROGERS, M.D., AND ZELLA BRYANT, R.N.

Home Nursing Service in the Health Insurance Plan of Greater New York. MARIAN G. RANDALL, R.N.

Nursing in a Nation-wide Program for Medical Care—Conclusions from Experience in the EMIC Program. RUTH G. TAYLOR, R.N.

The Montefiore Home Care Program. MARTIN CHERKASKY, M.D.

The Health Department and Vocational Rehabilitation. G. S. T. PEEPLES, M.D.

SCHOOL HEALTH

Second Session—Room B, Mechanics Building

Presiding: JESSIE M. BIERMAN, M.D., *Chairman.*

The School Health Section, 1948. JESSIE M. BIERMAN, M.D.

Principles for Consideration in Judging the Probable Effectiveness of Federal Legislation Designed To Improve the Health of Children of School Age. LEONA BAUMGARTNER, M.D., PH.D.

PERTINENT RESEARCH

An Evaluation of Various Audiometric Testing Procedures for School Children. THOMAS E. SHAFFER, M.D., AND DELYTE W. MORRIS, PH.D.

Absenteeism Studies in California and Canada. MARJORIE L. CRAIG.

Incidence of Heart Disease in Salt Lake City School Children. ROBERT H. ALWAY, M.D., AND E. B. HOLLEY, M.D.

Election of Officers.

WEDNESDAY, 12:30 P.M.

INDUSTRIAL HYGIENE

Luncheon Session—Parlor B, Statler Hotel

Presiding: CARL M. PETERSON, M.D., *Chairman.*

WEDNESDAY, 2:00 P.M.

FIRST SPECIAL SESSION IN COÖPERATION WITH THE MASSACHUSETTS STATE DEPARTMENT OF HEALTH, MASSACHUSETTS PUBLIC HEALTH ASSOCIATION, AND HARVARD SCHOOL OF PUBLIC HEALTH

Grand Hall, Mechanics Building

Presiding: VLADO A. GETTING, M.D., DR.P.H., CHARLES F. WILINSKY, M.D., JAMES S. SIMMONS, M.D., AND GORDON M. FAIR.

LEMUEL SHATTUCK—STILL A PROPHET

Lemuel Shattuck: America's Great Public Health Pioneer. W. G. SMILLIE, M.D.

Sanitation of Yesterday—But What of Tomorrow? ABEL WOLMAN, DR. ENG.

The Vitality of Vital Statistics. HUGO MUENCH, M.D., DR.P.H.

The Shattuck Report a Hundred Years Hence. C.-E. A. WINSLOW, DR.P.H.

WEDNESDAY, 4:00 P.M.

GOVERNING COUNCIL

Second Meeting—Talbot Hall, Mechanics Building

PUBLIC HEALTH EDUCATION

Fifth Session—Room 405, Statler Hotel

Presiding: DONALD B. ARMSTRONG, M.D., *Chairman.*

Meeting of Section Council with newly elected officers.

WEDNESDAY, 6:30 P.M.

HARVARD UNIVERSITY ALUMNI ASSOCIATION

Dinner Meeting—Longwood Towers, 20 Chapel Street, Brookline, Mass.

WEDNESDAY, 6:30 P.M.

AMERICAN SCHOOL HEALTH ASSOCIATION

Dinner Session—Salle Moderne, Statler Hotel

Presiding: DAVID VAN DER SLICE, M.D., *President.*

Presentation of the William A. Howe Award to:
AMOS L. BEAGHLER, M.D.
SALLY LUCAS JEAN.

Responses: DR. BEAGHLER AND MISS JEAN.

Dinner Speaker: HERMAN E. HILLEBOE, M.D.

WEDNESDAY, 7:15 P.M.

NATIONAL COMMITTEE OF HEALTH COUNCIL EXECUTIVES

Dinner Session—Salmagundi Restaurant, 222 Beacon Street

THURSDAY, 8:00 A.M.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY ALUMNI

Breakfast Session—Salle Moderne, Statler Hotel

UNIVERSITY OF MINNESOTA ALUMNI

Breakfast Session—Parlor B, Statler Hotel

YALE UNIVERSITY ALUMNI

Breakfast Session—Parlor A, Statler Hotel

THURSDAY, 9:30 A.M.

DENTAL HEALTH SECTION AND SUBCOMMITTEE ON MEDICAL CARE

Joint Session—Room C, Mechanics Building

Presiding: GEORGE NEVITT, D.D.S., AND NATHAN SINAI, DR.P.H.

Standards of Dental Care for All Age Groups. (Speaker to be announced.)

Provision of Dental Clinics in Hospitals and Health Centers. JAMES S MILLER, D.D.S.

Use of Auxiliary Personnel in Dental Care Programs. R. M. WALLS, D.D.S.

The Industrial Dental Program of the Pennsylvania State Department of Health. EDWARD R. ASTON, D.D.S.

THURSDAY, 9:30 A.M.

EPIDEMIOLOGY, HEALTH OFFICERS, AND VITAL STATISTICS SECTIONS

Joint Session—Grand Hall, Mechanics Building

Presiding: RUTH R. PUFFER, DR.P.H., AND FRANKLIN H. TOP, M.D., D.P.H.

CHRONIC DISEASE

The Chronic Disease Study of the California Department of Health. WILTON L. HALVERSON, M.D., DR.P.H.

Chronic Disease as an Industrial Hygiene Problem. CLARENCE D. SELBY, M.D.

The Use of Statistics in Cancer Control Programs. HAROLD F. DORN, PH.D.

Diabetes Control in a County Health Department. (Speaker to be announced.)

MERIT SYSTEM SERVICE

First Session—Reception Room, Mechanics Building

Presiding: LEROY E. BURNEY, M.D.

THE LIFE STORY OF A PUBLIC HEALTH EXAMINATION

The Subject-Matter Consultant. DOROTHY DEMING, R.N.

The Psychometrician. LILLIAN D. LONG, PH.D.

The Reviewer. RAYMOND S. PATTERSON, PH.D.

The Field Consultant. CHARLES B. FRASHER.

The Test Administrator:

Merit Systems. THOMAS L. BRANSFORD, PH.D.

Schools. KATHLEEN M. LEAHY, R.N.

U. S. Public Health Service. SIDNEY H. NEWMAN, PH.D.

The Researcher. ROGER M. BELLOWS, PH.D.

The Examinee. JOSEPH P. GAREN, M.D., AND JAMES KING. (Other speakers to be announced.)

Staff Consultants. ELIZABETH KENT LAZO AND ELAINE R. GRIMM.

Discussant: CHARLES B. FRASHER.

THURSDAY, 9:30 A.M.

FOOD AND NUTRITION AND LABORATORY SECTIONS

Joint Session—Paul Revere Banquet Hall, Mechanics Building

Presiding: MARJORIE M. HESELTINE AND EDMUND K. KLINE, DR.P.H.

NUTRITION IN INFECTION

Nutrition and Experimental Epidemiology. HOWARD A. SCHNEIDER, M.D.

The Influence of Protein Nutrition on Experimental Infection—Physiologic Aspects. JACK METCOFF, M.D., M.P.H.

The Relation of Nutrition to the Development and Course of Tuberculosis in Adolescence. JOSEPH A. JOHNSTON, M.D.

The Nutrition of Women with Active and Arrested Tuberculosis. MARGARET A. OHLSON, PH.D.

Discussant: J. M. RAWLINGS, M.D.

MATERNAL AND CHILD HEALTH AND SCHOOL HEALTH SECTIONS AND THE AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Talbot Hall, Mechanics Building

Presiding: A. L. VAN HORN, M.D., AND JESSIE M. BIERMAN, M.D.

PHYSICALLY HANDICAPPED CHILDREN OF SCHOOL AGE—MEETING THEIR MENTAL, EMOTIONAL, SOCIAL, AND PHYSICAL NEEDS

As Seen by an Educator. (Speaker to be announced.)

As Seen by a Medical Administrator. SAMUEL M. WISHIK, M.D.

Children with Special Problems. — A report by the National Tuberculosis Association. Discussed by members of the Committee:

CHARLES C. WILSON, M.D., *Chairman.*

GEORGE M. WHEATLEY, M.D.

HERBERT R. EDWARDS, M.D.

VIVIAN DRENCKHAHN

Discussion opened by: JESSIE M. BIERMAN, M.D., AND DOROTHY NYSWANDER, PH.D.

THURSDAY, 9:30 A.M.

INDUSTRIAL HYGIENE, ENGINEERING, AND PUBLIC HEALTH NURSING SECTIONS

Joint Session—Paul Revere Hall, Mechanics Building

Presiding: CARL M. PETERSON, M.D., JOHN M. HEPLER, AND RUTH FREEMAN, R.N.

COMMON COMMUNITY AND INDUSTRIAL HEALTH PROBLEMS

Industrial Health Counseling by the Nurse in Industry. ETHEL BURGESON, R.N.

Handling, Storage, and Disposal of Radioactive Isotopes. ABEL WOLMAN, DR.ENG., AND ARTHUR E. GORMAN.

Contributions of Industrial Hygiene to Public Health. THEODORE HATCH AND LEONARD GREENBURG, M.D.

Reports of Committees on Industrial Sanitation and on Air Pollution. (Tentative.)

PUBLIC HEALTH EDUCATION

Sixth Session—Parlors C, D, F, Hancock Room, Rooms 405, 406, 407, 408, 419, Statler Hotel

DISCUSSION OF CURRENT PUBLIC HEALTH EDUCATION PROBLEMS

(Standing Committees of the Section. All interested A.P.H.A. members are invited to participate in the discussion of any subject within their interest.)

Public Health Education Planning. *Chairman,* C. MAYHEW DERRYBERRY, PH.D. *Parlor C.*

Health Education and Social Science. *Chairman,* LUCY S. MORGAN, PH.D. *Parlor D.*

Community Organization for Health Education. *Chairman,* CLAIR E. TURNER, DR.P.H. *Parlor F.*

Coördination of Public Health Education with Other A.P.H.A. Sections. *Chairman,* MURIEL F. BLISS, PH.D. *Hancock Room.*

Public Health Films. *Chairmen,* KENNETH D. WIDDEMER AND THOMAS C. STOWELL. *Room 405.*

Utilization of Commercial Advertising in Health Education. *Chairman,* MARY CONNOLLY. *Room 406.*

Materials and Publicity. *Chairmen,* RAE K. SHOEMAKER AND SALLIE E. BRIGHT. Methods of Highlighting Health Education Programs and Techniques in the Setting of a Conference—Ways in which exhibits, portfolios, graphic techniques, and personal consultation can be used at conferences to tell the story of successful health education programs. *Room 407.*

Press Relations. *Chairman,* ANNA B. TOWSE. *Room 408.*

Scientific Exhibits. *Chairman,* MARIE C. HARRINGTON. *Room 419.*

THURSDAY, 12:30 P.M.

DENTAL HEALTH

Luncheon Session—Parlor A, Statler Hotel

Presiding: LESTER A. GERLACH, D.D.S., *Secretary.*

Section Business:

REPORT OF YOUR REPRESENTATIVES TO THE NATIONAL HEALTH ASSEMBLY

HAROLD HILLENBRAND, D.D.S.

ALLEN O. GRUEBBEL, D.D.S.

ANNIE J. TAYLOR.

CARL L. SEBELIUS, D.D.S.

LESTER A. GERLACH, D.D.S.

THURSDAY, 2:30 P.M.

ENGINEERING

Second Session—Reception Room, Mechanics Building

Presiding: M. ALLEN POND, *Vice-Chairman.*

Report of the Committee on Sewage Disposal. *Chairman,* LOUIS F. WARRICK.

Water-borne Diseases. IRVING R. BORTS, M.D.

Water Supply and Infant Cyanosis. CLARENCE W. KLASSEN.

Report of the Committee on Water Supply. *Chairman,* CHARLES R. COX.

Report of the Committee on Bathing Places (Joint with the Conference of State Sanitary Engineers.) *Chairman,* WARREN J. SCOTT.

EPIDEMIOLOGY

Third Session—Paul Revere Banquet Hall, Mechanics Building

Presiding: M. E. BARNES, M.D., *Chairman.*

Tuberculosis in the German Population, U. S. Zone of Germany. PHILIP E. SARTWELL, M.D., CHARLES H. MOSELEY, M.D., LT. COL., M.C., U.S.A., AND ESMOND R. LONG, M.D., PH.D.

Recent Studies on the Specificity of the Tuberculin Test. LYDIA B. EDWARDS, M.D., AND CARROLL E. PALMER, M.D.

Histoplasmin Sensitivity and Coccidioidal Infections. CHARLES E. SMITH, M.D., MARGARET T. SITO, RODNEY R. BEARD, M.D., HOMER G. ROSENBERGER, M.D., AND EDWARD G. WHITING, M.D.

Some Epidemiological Considerations of Histoplasmin Sensitivity. MICHAEL L. FURCOLOW, M.D., JOSEPH S. RUHE, D.V.M., AND IVAN L. BONNELL, M.D.

Trimming the Tuberculosis Register. JOHN H. KORNS, M.D.

THURSDAY, 2:30 P.M.

FOOD AND NUTRITION, HEALTH OFFICERS, LABORATORY, AND ENGINEERING SECTIONS

Joint Session—Paul Revere Hall, Mechanics Building

Presiding: HARRY E. GORESLINE, PH.D.

SANITARY PRACTICES IN THE FOOD INDUSTRY

A New Look in Food Sanitation. HENRY F. VAUGHAN, DR.P.H.

Development of an Adequate Educational Program on Sanitation in a Typical Food Industry—the Baking Industry. EDWARD L. HOLMES, PH.D.

The Organization and Execution of the National Canners Association Program. N. H. SANBORN, PH.D., AND EDWIN J. CAMERON, PH.D.

New Developments in Laboratory Control of Food Sanitation:

(1) **Method for Elimination of Bacteriostasis from Quarternary Ammonium Compounds in Swab Rinse Test.** G. M. RIDENOUR, PH.D., AND E. H. ARMBRUSTER.

(2) **The Effect of Borax on the Germicidal Efficiency of Alkali Washing Compounds.** SIDNEY M. BERNSTEIN, M.D., AND MAX LEVINE, PH.D.

PUBLIC HEALTH NURSING, PUBLIC HEALTH EDUCATION, MATERNAL AND CHILD HEALTH, AND SCHOOL HEALTH SECTIONS, AND THE AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Grand Hall, Mechanics Building

Presiding: RUTH FREEMAN, R.N., DONALD B. ARMSTRONG, M.D., A. L. VAN HORN, M.D., JESSIE M. BIERMAN, M.D.

SCHOOL-COMMUNITY HEALTH EDUCATION COÖRDINATION

A School Health Program Based on Sound Public Health Practices. THOMAS R. HOOD, M.D.

Discussants:

PAUL R. ENSIGN, M.D.

MAY HARE.

Health Appraisal of School Children. DEAN F. SMILEY, M.D.

School-Community Health Education Projects. HELEN M. STARR.

(Other speakers to be announced.)

THURSDAY, 2:30 P.M.

INDUSTRIAL HYGIENE SECTION AND SUBCOMMITTEE ON MEDICAL CARE

Joint Session—Talbot Hall, Mechanics Building

Presiding: CARL M. PETERSON, M.D., AND HERBERT L. LOMBARD, M.D.

NEW FIELDS OF INDUSTRIAL HYGIENE

Prevention and Control of Industrial Cancer. W. C. HUEPER, M.D.

Health Problems in Industrialized Agriculture. S. J. AXELROD, M.D.

Compensation for Wage Loss Due to Illness. JAMES DEERY, M.D.

The Industrial Hygienist and Medical Care. LORIN E. KERR, M.D.

Organization of Industrial Medical Care Plans. SIDNEY R. GARFIELD, M.D.

THURSDAY, 7:00 P.M.

SECOND GENERAL SESSION

Annual Banquet—Imperial Ball Room, Statler Hotel

Presiding: MARTHA M. ELIOT, M.D., *President,* American Public Health Association.

Presentation of Forty Year Membership Certificates.

Announcement of New Officers, Resolutions.

Presentation of the Lasker Awards for 1948.

Dancing. Refreshments. Informal.

FRIDAY, 8:00 A.M.

UNIVERSITY OF MICHIGAN ALUMNI

Breakfast Session—Parlor A, Statler Hotel

FRIDAY, 9:30 A.M.

ENGINEERING SECTION AND SUBCOMMITTEE ON MEDICAL CARE

Joint Session—Reception Room, Mechanics Building

Presiding: J. M. JARRETT AND JOHN J. BOURKE, M.D.

THE HOSPITAL SURVEY AND CONSTRUCTION PROGRAM

Progress Report. VANE M. HOGE, M.D.

State Administration. D. V. GALLOWAY, M.D.

Environmental Sanitation. MALCOLM C. HOPE.

Standards and Licensure. RAY M. AMBERG.

Panel Discussion

Participants:

GEORGE BUGBEE.

WILTON L. HALVERSON, M.D., DR.P.H.

MARTHA A. O'MALLEY, M.D.

GEORGE O. PIERCE.

EPIDEMIOLOGY AND LABORATORY SECTIONS

Joint Session—Paul Revere Banquet Hall, Mechanics Building

Presiding: M. E. BARNES, M.D., AND EDMUND K. KLINE, DR.P.H.

Q FEVER

History and Present Status of Q Fever. R. E. DYER, M.D.

Epizoölogical Studies of Q Fever in Southern California. R. J. HUEBNER, M.D., W. L. JELLISON, PH.D., J. A. BELL, M.D., R. E. MOTT, D.V.M., AND BERTON ELSON, D.V.M.

Epidemiological Studies of Q Fever in Southern California. M. DORTHY BECK, J. A. BELL, M.D., AND R. J. HEUBNER, M.D.

Experimental Q Fever in Cattle. E. J. BELL, D.SC., R. R. PARKER, PH.D., SC.D., AND H. G. STOENNER, D.V.M.

Q Fever Survey in Southwest Texas. J. V. IRONS, SC.D., J. N. MURPHY, JR., A. B. RICH, D.V.M., AND A. E. HILL, M.D.

Serological Studies on Q Fever in the United States. ELIAS STRAUSS, M.D., AND S. E. SULKIN, PH.D.

FRIDAY, 9:30 A.M.

FOOD AND NUTRITION, MATERNAL AND CHILD HEALTH, AND PUBLIC HEALTH NURSING SECTIONS

Joint Session—Grand Hall, Mechanics Building

Presiding: MARJORIE M. HESELTINE, A. L. VAN HORN, M.D., AND RUTH FREEMAN, R.N.

CONTENT OF MATERNAL AND NEONATAL HEALTH SERVICES

Panel Leaders: HAROLD C. STUART, M.D., AND ALEXANDER M. CAMPBELL, M.D.

Participants:

Content of Preconceptional and Interpregnancy Care. JOHN ROCK, M.D.

Obstetrical Aspects of Services. SAMUEL B. KIRKWOOD, M.D.

Pediatric Aspects of Services. STEWART CLIFFORD, M.D.

Nursing Services. JANE Y. HARSHBERGER, R.N.

Social Services. ELIZABETH RICE.

Nutrition Services. BERTHA BURKE.

Psychiatric Services. HELENE DEUTSCH, M.D.

PUBLIC HEALTH EDUCATION AND VITAL STATISTICS SECTIONS

Joint Session—Paul Revere Hall, Mechanics Building

Presiding: DONALD B. ARMSTRONG, M.D., AND RUTH R. PUFFER, DR.P.H.

HOME ACCIDENT PREVENTION *

The Place of Home Accident Prevention in the Public Health Program. I. JAY BRIGHTMAN, M.D.

The Epidemiology of Accidents. JOHN E. GORDON, M.D., PH.D.

The Home Environment in Relation to Home Accidents. LEONARD M. BOARD.

Gathering and Evaluating Farm Accident Data. CHARLES F. SARLE, PH.D., AND T. M. C. ROBINSON.

The Accident Prevention Education Program of the Voluntary Agencies. IRMAGENE NEVINS HOLLOWAY, ED.D.

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* In connection with this session, a special display on Accident Prevention is featured in the Health Education and Publicity Headquarters. The display focuses on the program developed by the A.P.H.A. Committee on Accident Prevention and shows ways home safety may be integrated in the activities of a health department. Consultants on special problems will be available from 9 to 10, 12 to 2, 4 to 5; other hours by appointment.

FRIDAY, 9:30 A.M.

HEALTH OFFICERS

Second Session—Room C, Mechanics Building

Presiding: C. HOWE ELLER, M.D., *Chairman.*

NEWER OUTPOSTS IN PUBLIC HEALTH

The Medical Problems Encountered in Dealing with an Atomic Detonation. COL. JAMES P. COONEY, M.D.

Canadian National Health Program. GEORGE D. W. CAMERON, M.D., D.P.H.

Public Health and Welfare in Japan. BRIGADIER GENERAL CRAWFORD F. SAMS, M.C.

A Health Officer Survey of the Medical Care Program. WILLIAM H. F. WARTHEN, M.D.

FRIDAY, 12:30 P.M.

MEETING OF ALL SECTION COUNCILS WITH THE EDITORIAL BOARD

Luncheon Session—Ball Room Foyer, Statler Hotel

FRIDAY, 2:30 P.M.

SECOND SPECIAL SESSION

Imperial Ball Room, Statler Hotel

Presiding: REGINALD M. ATWATER, M.D., DR.P.H.

ROUND-UP SESSION—HIGH POINTS OF THE 76th ANNUAL MEETING

Participants:

Representatives of the Sections, of the Program Committee and members of Association Committees.

ASSOCIATION NEWS

SEVENTY-SIXTH ANNUAL MEETING
AMERICAN PUBLIC HEALTH ASSOCIATION
BOSTON, MASS., NOVEMBER 8–12, 1948

MATERIALS FOR HEALTH EDUCATION AND PUBLICITY HEADQUARTERS AT THE BOSTON ANNUAL MEETING

Once again it is time to send news of your health education and publicity program and samples of your materials to the National Publicity Council for inclusion in the display now being prepared for the 76th Annual Meeting in Boston, November 8–12.

Everything from single printed pieces to materials and information regarding complete projects will be carefully considered.

At a planning meeting on the display for the Health Education and Publicity Headquarters, attended by representatives from the government and the national health agencies, the following subjects were selected for special emphasis this year. If you have been working on the public relations or health education aspects of any of the following, be certain to communicate with the Publicity Council.

Local Health Units
Local Health Councils
Accident Prevention
School Health Activities
Interpretation of the Hospital Act
Citizen Participation in Community Planning for Health
Projects Illustrating the Principles of Community Organization
Coöperative Projects (Particularly those illustrating coöperation between voluntary and official agencies, and between health agencies and civic organizations)

Display portfolios on the following media and subjects also will be included in the Headquarters. This list is not all inclusive, however, and you are not limited to these subjects

annual reports
booklets, leaflets, folders
bulletins, house organs
radio scripts
exhibit photographs
posters
health cartoons and comics
newspaper stories and features
health for the aged
nutrition
sanitation
promoting health legislation
public health nursing
tuberculosis
venereal disease
sex education
childhood diseases
infantile paralysis
cancer
heart ailments
mental health
maternal and child health
industrial health
dental health
eye and ear health

Whenever possible it is extremely important to accompany the materials you send with brief information on such things as: cost of production, why and how they were produced, what needs they met, how and to whom they were distributed, and what, if any, were the ascertainable results.

Materials should be addressed to the *National Publicity Council, 130 East 22nd Street, New York 10, New York,* and should be submitted before October 4. Additional information about the display may be obtained from the Council's Information Department.

PROPOSED SECTION ON MEDICAL CARE, A.P.H.A.

A sponsoring committee has been formed recently for the creation of a Medical Care Section in the American Public Health Association. The members of this committee believe that the interest and increased responsibilities of public health workers in this field require organizational expression. The proposed Medical Care Section will provide a medium for exchange of experience with respect to program content, administration, and technical aspects of the various fields of medical care, such as voluntary and public medical care plans, hospital services, group practice, chronic disease, and rehabilitation.

The committee has requested responsibility for organizing two independent sessions on medical care at the Annual Meeting of the Association in Boston, November 8–12 and this has the approval of the A.P.H.A. Executive Board and of the Program Committee. In addition, four joint sessions will be held with the Public Health Nursing, Dental Health, Industrial Hygiene, and Engineering sections.

The committee has already discovered considerable interest in the proposed section. More than 350 non-members of the Association, and more than 100 unaffiliated members have so far signified their interest in membership in the Medical Care Section.

Members of the sponsoring committee, which will request the Governing Council to create a Medical Care Section at the November meeting, include:

Elin L. Anderson
George Baehr, M.D.
John J. Bourke, M.D.
Dean A. Clark, M.D.
Edwin F. Daily, M.D.
Graham L. Davis
V. L. Ellicott, M.D.
I. S. Falk, Ph.D.
John A. Ferrell, M.D.
Vlado A. Getting, M.D.
Fred W. Jackson, M.D.
Hugh R. Leavell, M.D.
Morton L. Levin, M.D.
Herbert L. Lombard, M.D.
Basil C. MacLean, M.D.
Thomas B. McKneely, M.D.
Frederick D. Mott, M.D.
Joseph W. Mountin, M.D.
Martha A. O'Malley, M.D.
Ellen C. Potter, M.D.
Marian G. Randall, R.N.
Lowell J. Reed, Ph.D.
Dean W. Roberts, M.D.
Edward S. Rogers, M.D.
David D. Rutstein, M.D.
Emilie G. Sargent, R.N.
Nathan Sinai, Dr.P.H.
Lucille M. Smith
R. M. Walls, D.D.S.
John W. Williams, Jr., M.D.
John J. Wittmer, M.D.
Milton Terris, M.D., *Secretary*, P.O. Box 5998, Bethesda, Md.

EDUCATIONAL QUALIFICATIONS OF COMMUNITY HEALTH EDUCATORS

A new *Proposed Report on the Educational Qualifications of Community Health Educators* was published in the June, 1948, issue of the *Journal* and is now available as a reprint. It is 5 years since the Governing Council, on recommendation of the Committee on Professional Education, approved the *Report on Educational Qualifications of Health Educators*. In the intervening period the field of health education has undergone rapid expansion and changes and the demand for properly trained health educators has constantly increased, making a restatement of the recommended educational qualifications of health education personnel an urgent and important task.

The recently published proposed report is still in tentative form and Dr. Clair E. Turner, Chairman of the Subcommittee which prepared the report, sincerely invites comments and suggestions from all interested in health education. The comments should be submitted at the earliest possible time and will be brought to the attention of the Committee on Professional Education during the annual meeting in Boston.

RESOLUTIONS COMMITTEE FOR BOSTON MEETING

Appointment of the Resolution Committee to serve at the Annual Meeting in Boston is announced by Martha M. Eliot, M.D., *President*. The members appointed are:

Hugh R. Leavell, M.D. *Chairman*
C. Earl Albrecht, M.D.
Katherine Faville, R.N.
Frederick D. Mott, M.D.
Myron E. Wegman, M.D.

Suggested resolutions can be sent to the committee, c/o the Association, now. As in the past, a resolutions box will be placed near the registration desk, Mechanics Hall in Boston, at the time of the Annual Meeting. The time for closing the box, as determined by the Executive Board, will be announced at that time.

Hotel Reservations at Boston

Members are asking which is the "Headquarters" hotel for the Boston Annual Meeting. The answer is that no one hotel has been designated headquarters for delegates because Boston's hotels, though numerous, are not large.

A Housing Bureau is being operated for the Association by the Boston Convention Bureau. We are asking members to select their own hotel from among those listed on page 1178. The application should be carefully filled in and mailed to:

The Housing Bureau
Boston Chamber of Commerce
80 Federal Street
Boston, Mass.

Convention activities will center largely in Mechanics Building. We rearrange the list of hotels below to show you their location with relation to Mechanics Building. No. 1 is nearest, 2 next in order of distance, and so on.

1—Hotel Minerva	6—Hotel Statler	16—Hotel Manger
2—Copley Square Hotel	7—Hotel Bradford	16—The Parker House
3—Copley Plaza Hotel	8—Hotel Touraine	17—Hotel Continental
4—Hotel Lenox	9—Hotel Puritan	13—Hotel Kenmore
5—Hotel Gardner	10—Hotel Somerset	14—Hotel Braemore
5—Hotel Hemenway	11—Hotel Myles Standish	15—Hotel Bostonian
5—Hotel Vendome	12—Hotel Sheraton	16—Hotel Bellevue

Single rooms are few and are hard to obtain. Rooms for double occupancy are strongly recommended. There is no question about the ability of Boston's hotels to accommodate the delegates to the Annual Meeting, but the Housing Bureau and the Local Committee ask the coöperation of the membership in seeking double rather than single room accommodations.

A.P.H.A. membership application blank on page XXXIII

THE 76TH ANNUAL MEETING
Boston, Mass., November 8–12, 1948
Hotel Reservation Form

The hotels listed below have rooms available for Association delegates at the rates indicated. Please note that NO RESERVATIONS WILL BE ACCEPTED DIRECTLY BY HOTELS. Make your reservation through:
The Convention Bureau, Boston Chamber of Commerce, 80 Federal Street, Boston 10, Mass.

Hotels	*Singles*	*Doubles*	*Twin Beds*	*Suites*
Bellevue	$4.00–$6.00	$6.00–$8.00	$7.25–$10.00	$12.00–$15.00
Bostonian	3.00– 4.50	5.00– 6.50	5.00– 7.00	8.00– 10.00
Bradford	4.00– 6.00	6.00– 7.00	6.50– 8.00	12.00– 14.00
Braemore	4.40– 6.60	6.40– 9.90	6.60– 9.90	9.90– 25.00
Continental	3.50– 4.00	6.60	7.00	8.00– 25.00
Copley Plaza	4.50– 6.60	7.75– 8.80	8.80– 10.00	15.00– 25.00
Copley Square	4.00– 5.00	6.00	7.00	10.00– 14.00
Gardner	2.50– 5.00	4.00– 6.00	4.00– 6.00	7.50
Hemenway	3.00– 3.85	4.40– 5.50	4.40– 5.50	None
Kenmore	4.00– 6.00	6.50– 8.50	6.50– 8.50	10.00– 12.50
Lenox	3.75– 5.00	5.50– 6.50	7.50	10.00– 16.00
Manger	3.85– 5.50	5.00– 7.50	5.50– 7.50	None
Minerva	3.00– 5.00	4.00– 6.00	5.00– 7.00	5.00– 8.00
Myles Standish	3.85– 6.50	5.50– 7.50	6.50– 7.50	6.50– 15.00
Parker House	4.00– 6.50	6.25– 8.50	7.50– 10.00	14.00– 16.00
Puritan	4.40– 6.60	6.60– 8.80	9.90	13.20– 17.60
Sheraton	4.00– 4.50	7.00– 8.00	7.00– 8.00	7.00– 16.00
Somerset	5.00– 9.00	7.00–11.00	7.00– 11.00	10.00– 20.00
Statler	4.00– 9.50	6.50–12.00	8.50– 14.00	17.50– 27.00
Touraine	4.00– 6.00	6.00– 9.00	7.50– 9.00	14.00– 16.00
Vendome	3.75– 7.00	5.50– 8.75	6.50– 8.75	10.00– 15.00

MAKE ROOM RESERVATIONS EARLY

APPLICATION FOR HOTEL ACCOMMODATIONS
AMERICAN PUBLIC HEALTH ASSOCIATION
76th Annual Meeting and Meetings of Related Organizations, Boston, November 8–12, 1948
(Note that the Meeting opens Monday, November 8, at 9.30 A.M.)

Please make hotel reservation as indicated below:
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.... Room with Double Bed at $..... per day for .... persons
.... Room with Twin Beds at $..... per day for .... persons
.... Room for three people at $..... per day for .... persons
.... Single room at $..... per day
.... Suite at $..... per day for .... persons

ARRIVING. NOVEMBER .... Hour ..... LEAVING: NOVEMBER .... Hour .....

Please print (or type) names and addresses of all occupants including persons making reservation.

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MAIL TO: The Convention Bureau, Boston Chamber of Commerce, 80 Federal St., Boston, Mass.

RESERVATIONS WILL BE HELD UNTIL 6:00 P.M. ONLY, UNLESS THE HOTEL IS NOTIFIED OF LATE ARRIVALS

APPLICANTS FOR MEMBERSHIP

The following individuals have applied for membership in the Association. They have requested affiliation with the sections indicated.

Health Officers Section

Murray S. Acker, M.D., D.P.H., Health Region 3, Weyburn, Sask., Canada, Medical Health Officer

R. E. Elvins, M.D., City Hall, San Angelo, Tex., Director, San Angelo–Tom Green County Health Unit

L. D. Farragut, M.D., M.P.H., 1120 Franklin St., Houston 14, Tex., Director, Harris County Health Unit

William B. Ganaposki, Box 295, 633 Spearman Ave., Farrell, Pa., City Health Officer

Robert E. S. Kelley, M.D., 227 Commonwealth Ave., Boston 16, Mass., District Health Officer, Dept. of Public Health

George E. Maddison, M.D., C.M., D.P.H., Moncton Tuberculosis Hospital, Moncton, New Brunswick, Canada, Director of Tuberculosis Control

Mamoun Z. Mahayni, M.D., M.P.H., Midan Fokani Ave., Damascus, Syria, Public Health Officer, Syrian Ministry of Health

Bertram E. Marks, M.D., Dept. of Health, Middletown, Conn., City Health Officer

Laboratory Section

Ralph G. Aronstam, M.D., 858 W. Boston Blvd., Detroit, Mich., Prof. of Bacteriology, Great Lakes College

J. Owen Blache, M.D., 2601 N. Whittier, St. Louis 13, Mo., Pathologist, Homer G. Phillips Hospital

Rachel L. Dirks, 406 B. Ea. 28th, Vancouver, Wash., Bacteriologist, Clark County Health Dept.

Deborah L. Friedman, 1865 University Ave., New York 53, N. Y., Student, Univ. of Michigan

Rose R. Ichelson, 5841 Christian St., Philadelphia 43, Pa., Bacteriologist

Gonzalo A. Mondragon, M.D., Maracaibo 46–60, Medellin, Antioquia, Colombia, S.A., Jefe del Laboratorio Departamental de Antioquia

Marion Pfeiffer, 137 Vine, Park Ridge, Ill., Senior Laboratory Asst., Chicago Board of Health

Karel Raska, M.D., 158 Srobarova, Public Health Institute, Prague XII, Czechoslovakia, Deputy Director

Adele M. Snyder, 5525 Kimbark Ave., Chicago 37, Ill., Bacteriologist, State Dept. of Public Health

Vital Statistics Section

Eddie V. Cooksey, Charity Hospital, Record Library, New Orleans, La., Medical Record Librarian

Eugene K. Harris, 2704 Yale Station, New Haven, Conn., Graduate Student, Yale University, Dept. of Public Health

Mary T. D. Jett, 4726a McMillan, St. Louis, Mo., Acting Asst. Medical Record Librarian, Homer G. Phillips Hospital

Richard V. Kasius, M.P.H., U.S.P.H.S., Tuberculosis Control Division, Field Studies Section, Washington, D. C., Senior Asst. Sanitarian (R), Statistician

Sister Mary Anne, Mt. Carmel Hospital, Pittsburg, Kans., Administrator

Audrey V. Ohlandt, 221 Foothill Blvd., Oakland 6, Calif., Statistician, Oakland Dept. of Public Health

Estelle Schloderbach, 5447 Wilson Ave., Chicago, Ill., Asst. Medical Record Librarian, Cook County Hospital

Charlotte P. Sell, J.C.R.S. Sanatorium, Spivak, Colo., Medical Record Librarian, Jewish Consumptives Relief Society

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Helen G. Tibbitts, M.A., 1022 S.W. 11th Ave., Portland, Ore., State Registrar, State Board of Health

Sister M. Wencesla, Margaret Mary Hospital, Rosemont, Batesville, Ind., Administrative Office Supervisor

Engineering Section

George S. Bote, State Board of Health, P. O. Box 210, Jacksonville, Fla., Typhus Control Specialist, U.S.P.H.S.

Glen E. Browning, 1449 W. 69th St., Los Angeles 44, Calif., Public Health Engineering Trainee, Oregon State Board of Health

Harold F. Elkins, M.S.P.H., 1206 N. 64th St., Philadelphia 31, Pa., U.S.P.H.S., Research Fellowship

Clyde F. Fehn, M.S., 605 Volunteer Bldg., Atlanta, Ga., Engineer (R), U.S.P.H.S.

Charles C. Johnson, Jr., U.S.P.H.S., Mission Monrovia, Liberia, Engineer in Charge, Engineering Division

Sheldon L. Lang, U.S.P.H.S., 15 Pine St., New York 5, N. Y., Engineer (R)

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Industrial Hygiene Section

Roland E. Byrd, M.S., 704 N. Pine St., Little Rock, Ark., Director, Division of Industrial Hygiene, State Board of Health

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Food and Nutrition Section

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John C. Ayres, Ph.D., Iowa State College, Science Hall, Ames, Iowa, Assoc. Prof., Bacteriology Dept.

Robert E. Johnson, M.D., 1849 W. Pershing Road, Chicago 9, Ill., Director of Nutritional Research, WD Medical Nutrition Laboratory

Lelia C. Ogle, 1089 W. Michigan, Indianapolis 7, Ind., Nutritionist, State Board of Health

Robert E. Shank, M.D., 4 Garden Lane, Kirkwood, Mo., Prof. of Preventive Medicine and Public Health, Washington Univ. School of Medicine

Maternal and Child Health Section

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Rose Oser, R.N., AJDC, c/o PCIRO Administrative Subunit, APO 407, New York, N. Y., Area Supervising Nurse, American Joint Distribution Committee

Public Health Education Section

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Fred B. Ragland, 3464 San Jose Blvd., Jacksonville, Fla., Director, Bureau of Finance, State Board of Health

Verne C. Reierson, 1022 S.W. 11th Ave., Portland 5, Ore.

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Public Health Nursing Section

Essie Anglum, R.N., 2519 Sherman St., Evanston, Ill., Instructor, Dept. of Public Health Nursing, Loyola Univ., Chicago

Madelene Bailey, R.N., Glenville, W. Va., Public Health Nurse, Gilmer County

Florence M. Burnett, R.N., 141 N. Village Ave., Rockville Center, N. Y., Army Nurse Corps, discharged

Margaret R. Daugherty, R.N., 104 W. Kent St., Streator, Ill., Nurse, LaSalle County Health Service, Ottawa, Ill.

Amber M. G. Golob, R.N., 5858 Byron St., Chicago 34, Ill., Educational Supervisor, Evanston Visiting Nurse Assn.

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Margaret F. Knapp, U.S.P.H.S., Div. of Cancer Control, Bethesda, Md., Nursing Consultant

Mary J. Leake, Topeka-Shawnee Health Dept., Topeka, Kans., Educational Director, Nursing Division

Rosamond Noel, 1620 S. 2nd St., Springfield, Ill., Advisory Nurse, State Dept. of Public Health

Louise M. Suchomel, B.S.N.Ed., 1790 Broadway, Room 1315, New York 19, N. Y.,

Consultant in Orthopedic Nursing, National Organization for Public Health Nursing

Dorothy G. Teall, R.N., Dept. of Health, Lihue, Kauai, T. Hawaii, Supervisor, Public Health Nursing, Territorial Dept. of Health

Epidemiology Section

Col. Charles O. Bruce, M.C., 57 Fenwick Road, Fort Monroe, Va., Deputy Surgeon, Army Field Forces, U.S.A.

Harold T. Fuerst, M.D., 80–40 Lefferts Blvd., Kew Gardens, N. Y., Epidemiologist, New York City Dept. of Health

George C. Griffith, M.D., 1060 E. Green St., Suite 106, Pasadena 1, Calif., Clinical Prof. of Medicine, Univ. of Southern California

Edward A. Horr, M.D., M.P.H., Naval Medical Center School, Bethesda 14, Md., Instructor in Parasitology

Clayton G. Loosli, M.D., 950 E. 59th St., Chicago 37, Ill., Assoc. Prof. of Medicine, Univ. of Chicago, School of Medicine

Robert K. Nelson, D.V.M., M.P.H., P. O. Box 453, Manhattan, Kans., Base Veterinarian, 363rd Medical Group, Langley Air Force Base, Hampton, Va.

Col. Laurence A. Potter, M.C., 5609 Northfield Rd., Bethesda 14, Md., Deputy Chief, Procurement Branch, Personnel Division, Office of the Surgeon General, U.S.A.

Samuel M. Taylor, 2145 Bourdon St., Muskegon, Mich., Venereal Disease Investigator, Muskegon County Health Dept.

Norman H. Topping, M.D., 10 North Drive, Bethesda 14, Md., Assoc. Director, National Institutes of Health

School Health Section

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Katherine Steinbicker, State Dept. of Education, Charleston 5, W. Va., State Supervisor, Health Education

N. E. Watson, Ph.D., 1000 Waukegan Road, Northbrook, Ill., Supt. of Schools, Northfield Township

Dental Health Section

Dr. Philip J. Kane, Sheridan National Bank Bldg., Sheridan, Wyo., Dentist

Eugenia L. Mobley, D.D.S., M.P.H., 108 4th Ave. South, Birmingham 4, Ala., Director, Negro Bureau of Dental Health, Jefferson County Board of Health

Unaffiliated

Ray Amberg, University Hospitals, Minneapolis, Minn., Director

M. Haskins Coleman, Jr., 207 E. Franklin St., Richmond, Va., Exec. Director, Virginia Hospital Service Assn.

Robert A. Hunt, 1340 Crandall Ave., Salt Lake City, Utah, Administrator, Hospital Survey and Construction Division, State Dept. of Health

Alfred T. Johnson, LL.B., 17211 S.E. Powell Blvd., Portland 16, Ore., Personnel Director, State Board of Health

Herbert M. Krauss, M.B.A., Burlington Protestant Hospital, Burlington, Iowa, Hospital Administrator

Carrie L. Lawrence, P.O. Box 1017, Santa Fe, N. M., Chief Accountant, Dept. of Public Health

Don Longfellow, M.D., M.P.H., Office of the Surgeon General, U.S.A., Washington 25, D. C., Chief, Preventive Medicine Division

George R. Nelson, 9th and Mt. Vernon Place, N.W., Washington 1, D. C., International Assn. of Machinists

Margarita Pascual, Fernandez Juncos 1456, Santurce, Puerto Rico, Dept. of Education, Program on Human Relations

Osler L. Peterson, M.P.H., 20 Rue de la Baume, Paris, France, Staff Member, Rockefeller Foundation

Paul B. Shanks, State Health Dept., Charleston, W. Va., Administrative Asst.

Mack D. Shelhorse, 4216 Kingcrest Parkway, Richmond, Va., Administrative Asst., State Dept. of Health

Margaret K. Stanley, P.O. Box 186, Bakersfield, Calif., Exec. Secy., Kern County Branch, American Cancer Society

Stuart B. Wilkins, 17 Capitol St., Concord, N. H., Director, Division of Finance, State Dept. of Health

APPLICANTS FOR FELLOWSHIP

In accordance with the By-laws of the Association, the names of applicants for Fellowship are officially published herewith. They have requested affiliation with the Sections indicated. Action by the various Section Councils, the Committee on Eligibility, and the Governing Council will take place during the Boston Annual Meeting.

Health Officers Section

John K. Altland, M.D., M.S.P.H., Director, Bureau of Local Health Services, State Dept. of Health, Lansing, Mich.

Robert E. Archibald, M.D.C.M., M.P.H., Director, Division of Local Health Administration, State Dept. of Public Health, Boston, Mass.

Jesse B. Aronson, M.D., M.P.H., District Health Officer, New York City Health Dept., New York, N. Y.

Clayton C. Benjamin, M.D., M.S.P.H., Director, St. Clair County Health Dept., Port Huron, Mich.

Wilber V. Bradshaw, Jr., M.D., M.P.H., Assistant Director and Epidemiologist, City Health Dept., Fort Worth, Tex.

Caroline H. Callison, M.D., M.P.H., Health Officer, Marlboro County Health Dept., Bennettsville, S. C.

Capt. Thomas J. Carter, M.C., USN (M.D., Dr.P.H.), Senior Medical Officer, U. S. Naval Training Center, San Diego, Calif.

Albert L. Chapman, M.D., M.P.H., Assistant Chief, States Relations Division, U. S. Public Health Service, Washington, D. C.

Nathaniel H. Cooper, M.D., M.P.H., Assistant Director, Calhoun County Health Dept., Battle Creek, Mich.

Gilbert Cottam, M.D., formerly Superintendent, State Board of Health, Pierre, S. D.

Benjamin M. Drake, M.D., M.P.H., Health Officer, Rockingham-Caswell Health Dept., Spray, N. C.

Eli Eichelberger, M.D., Director of Health, York, Pa.

Harrison Eilers, M.D., M.P.H., Supervisor of Health Service, Long Beach Public Schools, Long Beach, Calif.

Marion G. Fisher, M.D., M.P.H., Health Commissioner, Lorain County District Health Dept., Oberlin, Ohio

Leon H. Flancher, M.D., M.P.H., Director, Division of Tuberculosis Control, State Dept. of Health, Des Moines, Iowa

Malcolm J. Ford, M.D., M.P.H., Medical Officer in Charge, Diabetes Demonstration Unit, U. S. Public Health Service, Jacksonville, Fla.

John H. Fountain, M.D., M.P.H., Director, Division of Tuberculosis Control, Seattle Health Dept., Seattle, Wash.

Alfred L. Frechette, M.D., M.P.H., Director, Brookline Health Dept., Brookline, Mass.

David Frost, M.D., M.P.H., Health Officer, City Health Dept., Alameda, Calif.

A. Floyd Gardner, M.D., C.P.H., Board of Review, Member Discharges and Dismissals, Exec. Office of the Secretary, Navy Dept., Washington, D. C.

Roy O. Gilbert, M.D., Health Officer, Los Angeles County Health Dept., Los Angeles, Calif.

John T. Herron, M.D., Director, Bureau of Local Health Service, State Board of Health, Little Rock, Ark.

Albert E. Heustis, M.D., M.P.H., Director, Branch County Health Dept., Coldwater, Mich.

Walter R. Hewitt, M.D., Director of Health, University City, Mo.

Herbert A. Hudgins, M.D., Medical Officer and Associate Chief of Field Party, Institute of Inter-American Affairs, Port-au-Prince, Haiti

Walter C. Humbert, M.D., Director, Giles-Lincoln County Health Dept., Pulaski, Tenn.

Robert M. Hursh, M.D., Director, Bureau of Health, Harrisburg, Pa.

Clara R. Johns, M.D., M.P.H., Health Officer, Lee County Health Dept., Dixon, Ill.

Trois E. Johnson, M.D., M.P.H., Director, Division of Local Health Services, State Dept. of Health, New Orleans, La.

Walter B. Johnson, M.D., Deputy State and Dorchester County Health Officer, Cambridge, Md.

Max R. Kiesselbach, M.D., M.P.H., Medical Officer, Venereal Disease Division, U. S. Public Health Service, Washington, D. C.

Arnold B. Kurlander, M.D., M.P.H., Chief, Division of Tuberculosis, State Dept. of Health, Columbus, Ohio

George Loewenstein, M.D., Health Officer, Cumberland, Me.

Pascal F. Lucchesi, M.D., M.P.H., Superintendent and Medical Director, Philadelphia General Hospital, Philadelphia, Pa.

James C. Malcolm, M.D., M.P.H., Health

Officer, Alameda County Health Dept., San Leandro, Calif.

Berwyn F. Mattison, M.D., M.P.H., Commissioner of Health, Erie County Health Dept., Buffalo, N. Y.

Thomas F. McGough, M.D., M.P.H., Health Commissioner, Tuscarawas County Health Dept., New Philadelphia, Ohio

Demetrius A. Messinezy, M.B., M.P.H., Chief of Mission to Ethiopia and Chief Medical Officer, World Health Organization, Geneva, Switzerland

Abbott B. Mitchell, M.D., M.P.H., Director, Blood Plasma Program, State Dept. of Health, Lansing, Mich.

James M. Mott, M.D., Director, Lawrence-Douglas County Health Dept., Lawrence, Kans.

Lorenzo L. Parks, M.D., M.P.H., Director, Field Technical Staff, State Board of Health, Jacksonville, Fla.

George S. T. Peeples, M.D., M.P.H., Director, Division of Crippled Children, State Board of Health, Columbia, S. C.

Paul Q. Peterson, M.D., M.P.H., Chief, Bureau of Direct Services, State Dept. of Health, Columbus, Ohio

John D. Porterfield, M.D., M.P.H., Director, State Dept. of Health, Columbus, Ohio

Winston B. Prothro, M.D., M.P.H., Director, City-County Health Dept., Kalamazoo, Mich.

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Reuben F. Reider, M.D., D.P.H., Assistant Chief, Laboratory Division, Communicable Disease Center, U. S. Public Health Service, Atlanta, Ga.

Leonard A. Scheele, M.D., Surgeon General, U. S. Public Health Service, Washington, D. C.

Dale E. Scholz, M.D., M.P.H., Health Officer, Lawrence-Wabash County Health Dept., Mt. Carmel, Ill.

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Sterling P. Taylor, M.D., Health Officer, North Haven, Conn.

James A. Thrash, M.D., M.P.H., Commissioner of Health, City-County Health Dept., Columbus, Ga.

Charles C. Tudor, M.D., M.P.H., District Health Officer, Benton-Franklin District Health Dept., Pasco, Wash.

Bruce Underwood, M.D., State Health Commissioner, State Health Dept., Louisville, Ky.

Sidney S. Wasserstrom, M.D., M.S.P.H., District Health Officer, New York City Health Dept., Brooklyn, N. Y.

John J. Wright, M.D., M.P.H., Professor of Public Health Administration, School of Public Health, University of North Carolina, Chapel Hill, N. C.

Laboratory Section

Emanuel Appelbaum, M.D., Senior Bacteriologist and Chief, Division of Acute Infections of Central Nervous System, Bureau of Laboratories, New York City Health Dept., New York, N. Y.

Jacques Archambault, D.Sc., Associate Director of Laboratories, Quebec Ministry of Health, Montreal, Que., Canada

Joseph D. Aronson, M.D., Associate Professor of Bacteriology, Henry Phipps Institute, Philadelphia, Pa.

Catharine Atwood, B.A., Bacteriologist in Charge, Boston Health Dept., Boston, Mass.

Frederick Boerner, V.M.D., Advanced Bacteriologist, State Dept. of Health, and Assistant Professor of Bacteriology, School of Medicine, University of Pennsylvania, Drexel Hill, Pa.

Janet M. Bourn, Ph.D., Bacteriologist, State Dept. of Health, Lansing, Mich.

Chester W. Christensen, Ph.D., Special Instructor in Industrial Microbiology, Wayne University, Detroit, Mich.

Frances L. Clapp, B.A., Director, Biological Testing Section, Lederle Laboratories Division, American Cyanamid Co., Pearl River, N. Y.

Rita Clark, S.B., City Chemist, Bacteriologist, and Milk Inspector, Brockton Health and Water Depts., Brockton, Mass.

Gilbert Dalldorf, M.D., Director, Division of Laboratories and Research, State Dept. of Health, Albany, N. Y.

Gustave J. Dammin, M.D., Assistant Professor of Pathology and Internal Medicine, Washington University Medical School, St. Louis, Mo.

Ben E. Diamond, M.A., Director, Division of Laboratories, State Board of Health, Pierre, S. D.

Cornelia A. Eddy, M.S., Instructor, Dept. of

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Norbert H. Fell, Ph.D., Chief, Pilot Plants, Engineering Division, Chemical Corps, U. S. Army, Frederick, Md.

Joseph Felsen, M.D., Director of Laboratory and Research, Bronx Hospital, New York, N. Y.

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Louis Gershenfeld, D.Sc., Director of Bacteriological Laboratories and Professor of Bacteriology and Hygiene, Philadelphia College of Pharmacy and Science, Philadelphia, Pa.

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Col. Karl R. Lundeberg, M.C. (M.D., D.T.M. & H.), Assistant Chief Health Officer, The Panama Canal, Balboa Heights, C. Z.

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Harold Macy, Ph.D., Associate Director, Agricultural Experiment Station, University of Minnesota, St. Paul, Minn.

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John M. Pearce, M.D., Professor of Pathology, Cornell University Medical College, and attending Pathologist, New York Hospital, New York, N. Y.

Lenore R. Peizer, B.A., Bacteriologist, New York City Health Dept., New York, N. Y.

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Willard F. Verwey, D.Sc., Director of Bacteriological Research, Medical Research Division, Sharp and Dohme, Inc., Glenolden, Pa.

George R. Weber, Ph.D., S. A. Scientist, U. S. Public Health Service, Cincinnati, Ohio

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Vital Statistics Section

F. Herbert Colwell, Dr.P.H., Statistics Consultant, State Health Dept., Seattle, Wash.

Ann Dillon, M.S.P.H., Senior Statistician, State Dept. of Public Health, Nashville, Tenn.

Harold F. Dorn, Ph.D., Chief, Office of Statistical Methods and Advisory Service, U. S. Public Health Service, Washington, D. C.

Carl L. Erhardt, B.B.A., Registrar of Records and Director, Bureau of Records and Statistics, New York City Health Dept., New York, N. Y.

Clifford H. Greve, M.S.P.H., Statistician and Assistant Chief, Program Analysis Section, U. S. Public Health Service, Washington, D. C.

Paul H. Jacobson, A.M., Vital Statistics Analyst, Statistical Bureau, Metropolitan Life Insurance Co., New York, N. Y.

Anthony M. Lowell, M.P.H., Assistant Statistician, New York Tuberculosis and Health Assn., New York, N. Y.

Kurt Pohlen, Ph.D., Director, Dept. of Research and Statistics, Catholic Hospital Assn., St. Louis, Mo.

Paul W. Shipley, B.S., Chief, Bureau of Records and Statistics, State Dept. of Public Health, San Francisco, Calif.

Engineering Section

Joel C. Beall, B.S.C.E., Engineer and Director, Division of Sanitation, Macon-Bibb County Health Dept., Macon, Ga.

Nelson Biaggi, M.S.S., Associate in Sanitary Science, School of Tropical Medicine, San Juan, P. R.

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Food and Nutrition Section

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EMPLOYMENT SERVICE

The following pages present information for those seeking qualified public health personnel and for those seeking positions in public health.

This is a service of the Association conducted without expense to the employer or employee.

Address all correspondence to the Employment Service, A.P.H.A., 1790 Broadway, New York 19, N. Y., unless otherwise specified.

(Supplemental to list in August Journal)

Positions Available

Deputy Health Officer at the Rochester Health Bureau, Rochester, N. Y. Salary $7,000. M.D. degree and graduate work in public health required. Duties varied. Write, Dr. Albert D. Kaiser at above mentioned address giving training and experience and special interests in public health.

Associate Bacteriologist, Public Health. Master's degree. Two years' suitable postgraduate experience. Salary range $306 to $350 per month. Permanent position under effective civil service.

Senior Assistant Bacteriologist. Public Health. Salary range $242 to $270 per month. B.S. degree with major in biology and at least 18 months' public health laboratory experience required. Some graduate work or teaching experience highly desirable. Write: Director of Laboratories, Laboratory Section, St. Louis Health Division, Room 32, Municipal Courts Building, St. Louis, Mo.

Public Health Nurse: For generalized program (including school service). Staff of 40 nurses. Completion of accredited public health nursing course required. Beginning salary $2,940—possibly higher. County car or 7¢ per mile for use of personal car. Personnel policies good, including five day week and annual salary increments. Write: Director of Public Health Nursing, Kern County Department of Public Health, P. O. Box 120, Bakersfield, Calif.

Staff School Nurse for small, well organized school health department on Pacific Coast. Salary approximately $2,850, 35 hour week, 9 calendar months including 3 weeks vacation. Three summer months free. Annual increment for ten years, tenure after three probationary years. Must be under thirty with B.A. and P.H.N. degrees, at least one year's experience in generalized nursing program and own car. Send photograph, age, degrees, training and experience since receiving P.H.N., marital status, number of children. Position open September, 1948. Write: **Box A-23,** Employment Service, A.P.H.A.

Public Health Nurse, white. Starting salary $2,200. Apply: Health Officer, Health Center, Alexandria, Va.

Supervisors of Public Health Nurses. Baltimore County Health Department. Population 230,000; suburban, industrialized and rural areas; county seat 8 miles from Baltimore. Generalized service; director, 4 supervisors, 36 field nurses. Degree and experience required. Salary $3,100 to $3,600; for special preparation in child hygiene, venereal disease, mental hygiene or orthopedics, $3,400 to $3,900. Also **Public Health Nurses,** beginning salary $2,300 (for trainee) to $2,700, depending on experience and education; increases to $3,300. Retirement plan; 1 month's vacation; 5 day, 35½ hour week; sick leave. For use of personal car, allowance of 7 cents per mile. Write: Dr. William H. F. Warthen, Health Officer, Baltimore County Health Department, Towson 4, Md.

Sanitarian, for town of 30,000 in the Northeastern United States. College graduate with major in Biological sciences and experience in sewage disposal and restaurant sanitation. Salary $3,000 to $3,500, plus car allowance. Car necessary. Write: Health Officer, Fairfield, Conn.

School Nurse for High School, Northeastern United States. R.N. and some public health experience required. College graduate preferred. Salary $3,000 annually and increments. Write: Health Officer, Fairfield, Conn.

Health Educator for a college major in Health Education. Master's degree is required. Should be able to teach Administration and Organization and Materials and Methods of Health Education, and supervise student practice field work. Starting salary $3,800 for 9 months, extra

pay for Summer School. Man preferred. Write: Dean, Springfield College, Springfield, Mass.

Public Health Nurse Supervisor—with certificate or one year of graduate study in public health. Salary range $3,120 to $3,600. Vacation, sick leave, retirement plan, 5 day week, permanent tenure. Car furnished. Write: Charles A. Neafie, M.D., Director, Dept. of Public Health, Pontiac 15, Mich.

Director for School Health Service, City Public Schools, M.D. required. M.P.H. desirable but not essential for applicants with public health experience. Age preferred 30–40. Beginning salary $6,000. Staff of 17. Write: W. A. Bass, Superintendent, City Public Schools, Nashville 4, Tenn.

Sanitation Engineer, foreign location; experienced man to handle general work in tropics for well established plantation. Will supervise sanitation problems, mosquito control. Splendid 2 year contract for qualified man. In reply give age, education, experience, and salary expected. Write: **Box A-24**, Employment Service, A.P.H.A.

Public Health Nurses needed in Nevada. Permanent positions in rural counties and local county health unit. **Junior Public Health Nurses:** (salary range $2,160–$2,640 annually) minimum of 6 months' postgraduate public health nursing training. **Senior Public Health Nurses:** (salary range $2,340–$2,940 annually). One academic year of postgraduate training in public health nursing plus satisfactory experience in official agency. Mileage allowance 7½¢, if nurse owns car. Write: Nevada State Department of Health, Division of Public Health Nursing, Reno, Nev.

Associate Director who can in time succeed Director of Midwest City Department with better than average budget, program and staff of 70, Civil Service benefits. Preference to training and/or experience in M.C.H. or Tuberculosis. Salary to $7,000 as Associate and $10,000 as Director. Write: George Hays, M.D., Director, Dept. of Public Health, P. O. Box 28, Flint, Mich.

Sanitary Engineer in a well organized County Health Department in the choice section of Illinois. Twenty staff members including 2 sanitarians. Salary to depend on training and experience, liberal travel allowance. Population of County 72,000. Apply: McLean County Health Dept., 1009 North Park St., Bloomington, Ill.

Qualified Public Health Nurses for attractive rural area on coast of Northern California. Generalized Public Health Program. Population 60,000, State Retirement Plan. Car furnished. Salary range $3,000–$3,600. Apply: Director, Humboldt County, Department of Public Health, 805 Sixth St., Eureka, Calif.

The Denver City-County Health Department has several vacancies for **Public Health Nurses** with training and experience and interested in field teaching. Beginning salary $245.00 per month plus mileage. Generalized program except for public school services. Recent Visiting Nurse Association merger. University field program. Write: Mrs. Mary Emberton, Director, Visiting Nurse Service, Denver Health Department, Denver General Hospital, Denver, Colo.

Two **Staff Nurses** in Health Department at Hillsboro, Ill. Salary range $200 to $250 per month. General nursing program. Car required. Liberal allowance for depreciation and mileage. Write: Montgomery County Health Dept., Hillsboro, Ill.

Staff Nurse preferably with public health nursing experience for generalized public health nursing program in a county Health Unit in S.E. Colorado. Salary dependent on qualifications; must own car, mileage paid. Write: Acting Director, Otero County Health Department, 17 West 4th, La Junta, Colo.

Public Health Statistician to direct bureau of health (vital) statistics. Salary $407.08 to $481.67 plus $25.00 monthly bonus. Five years of statistical experience including three years in research and supervisory capacity in public health, graduation from a recognized university with courses in advanced statistics and one year of graduate work in public health, major in public health statistics. Write: air-mail to: President, Board of Health, P. O. Box 3378, Honolulu 1, Hawaii.

Staff Physician for Tuberculosis Sanatorium. 270 beds, salary $4,848. Write: Dr. C. W. Scott, Superintendent, Piedmont Sanatorium, Burkeville, Va.

Sanitary Engineer or Sanitarian, engineering or science degree. Generalized program, rural and urban, two county district. Car necessary, mileage 7¢. Salary open. Write: Director, Delta-Menominee District Health Department, Escanaba, Mich.

Public Health Nurses; Southern Michigan City-County Health Department, field training area. Opportunity for supervised

experience and university extension courses. Forty hour week; 4 weeks' annual vacation; liberal sick leave. Salary liberal, systematic increments. Travel allowance. Write: Director, Calhoun County Health Department, Battle Creek, Mich.

Public Health Nurse, preferably with training and experience. County of 35,000 population, 100 miles from Chicago; 3 weeks' vacation, sick leave with pay; $60 monthly travel allowance, monthly salary range $200–$250. Write **Box A-25,** Employment Service, A.P.H.A.

Bacteriologist for investigational work in pulp and paper fields involving bacteriological and mycological studies. Recent graduates with advanced degree or experienced personnel. Write: Institute of Paper Chemistry, Appleton Wis.

Chief Bacteriologist for State Health Department Laboratory, northeastern U. S. Advanced degree required. Salary $4,170 maximum, depending on qualifications. Write **Box A-28,** Employment Service, A.P.H.A.

Director, Bureau of Tuberculosis, New York City Health Department. M.D., 1 year approved interneship, 1 year residency in approved TB Hospital, 3 years' full-time administrative metropolitan public health experience, 3 years' full-time experience in examination and treatment of TB patients and radiological diagnosis or equivalent. New York State License; blanks must be applied for and delivered personally or by messenger at 299 Broadway, New York City.

Several qualified **Sanitarians.** Bachelor's degree with related science or engineering major and 1 year qualifying experience. Experience in sanitation may be substituted for two years college. Beginning monthly salary $200. Write Merit System Supervisor, Box 939, Santa Fe, N. M.

Two positions for **Staff Nurses,** salary $250–$310; one position for Director of Nursing; Sutter-Yuba Health Dept., Central California, including two counties, urban and rural. Total staff of twenty. Housing available. Salary for Director of Nursing $360. Write. C. A. Scherer, M.D., Health Officer, 309 C St., Marysville, Calif.

Health Educator, with M.P.H. major in health education or equivalent, or degree plus minimum 3 years' public health experience with official or voluntary agency. Salary $3,000–$4,000. To work with metropolitan voluntary health agency, mid-west. Write **Box A-27,** Employment Service, A.P.H.A.

Educational Director for a growing student and staff education program. Salary open. Also several qualified staff nurses, salary $185–$245. Write: Director, Public Health Nursing Association, Des Moines 9, Iowa.

Public Health Nurses for generalized nursing program, salary range $255–$275 per month. Civil Service, 40 hour week, vacation and sick leave privileges. Car furnished. Write: Director of Public Health Nursing, 504 County City Building, Seattle 4, Wash.

Hearing and Vision Consultant. Minimum two years' experience in hearing and vision programs including hearing and vision testing. College graduate with one year graduate training in psychology, speech, or related field. Salary range $3,600 to $4,440. Considerable state-wide travel with per diem of $6.75 and mileage. Permanent; Civil Service status. Write: State Health Officer, Oregon State Board of Health, Portland 5, Ore.

Opportunities for Physicians in Illinois

The Illinois Department of Public Health needs District Health Officers. Salary range $5,760–$6,960, plus travel. Liberal retirement system. Experienced men preferred and will start above minimum salary, with regular raises for satisfactory service. Qualified individuals may be placed in Division Offices of State Department. Possibility of positions in newly established city and county health departments paying approximately $7,000 plus travel, or higher. Only graduates of Class A medical schools and AMA approved interneships considered. Applicants must be willing to take special training on stipend if indicated. Write: Roland R. Cross, M.D., Director, State Department of Public Health, Springfield, Ill.

Opportunities in Kentucky

Assistant State Health Commissioner, well qualified, salary open. Public health officers, nurses and other public health personnel. Some are key positions on state and local levels. Write: Bruce Underwood, M.D., State Health Commissioner, Kentucky State Department of Health, Louisville 2, Ky.

Opportunities in Alaska

Public Health Nurses, well qualified with at least 1 year of generalized field experience under supervision. Openings chiefly in one-nurse community, or itinerant services. Minimum requirements include an approved course of study in Public Health Nursing. Salaries begin at $3,960 ($4,554 if assigned to Interior); with annual increase to maximum salary of $4,860 at end of six years ($5,589 if in Interior).

Senior Public Health Nurse or Public Health Nurse-Midwife. Generalized programs in more isolated areas, including itinerant services. Minimum requirements for both include an approved course of study in public health nursing. Senior nurses must have carried comparable senior or supervisory experience in another public health agency having a generalized program. PHN-Midwives must be certified. Salary begins at $4,140 ($4,761 if assigned to Interior); with annual increase to $5,040 ($5,796, if in Interior). All employees receive 30 working days' annual leave plus 2 weeks' sick leave; benefits under Workmen's Compensation Act. Write: Division of Public Health Nursing, Territorial Department of Health, Juneau, Alaska.

Opportunities for Physicians in the Regular Corps of the U.S.P.H.S.

Examinations for Senior Assistant Surgeon and Assistant Surgeon will be held October 4, 5, and 6, 1948. Senior Assistant Surgeon must have had at least 10 years of educational and professional training or experience after high school; Assistant Surgeon, 7 years. Beginning salaries: Senior $5,551, Junior $5,011. Minimum age, 21 years. Graduate from a recognized medical school and citizenship required. Applications may be obtained from U. S. Public Health Service Hospitals, District Offices or Surgeon General, U.S.P.H.S., Washington 25, D. C.

Opportunities in Colorado

The Weld County Health Department in Greeley, Colorado, announces the following openings: Public Health Nurse III, salary approximately $3,000, Nutritionist, $2,760, Health Education Director, $4,200, Psychiatric Social Case Work Supervisor, $3,600, Public Health Sanitarian or Engineer, $4,000 to $5,000 depending on background and experience. Apply Director, Weld County Health Department, Court House, Greeley, Colo.

Opportunities in Minnesota

	Salary Range
Public Health Engineering Aide	$2,568–$3,048
Public Health Engineer I	3,480– 4,080
Public Health Engineer II	4,332– 5,052
Public Health Engineer III	5,232– 5,952
Public Health Engineer IV	6,024– 6,864

All applicants must have graduated from a university of recognized standing with specialization in engineering and various requirements of graduate training and experience. Write: Minnesota State Civil Service Dept., 122 State Office Bldg., St. Paul 1, Minn.

Opportunities in Kansas

	Salary Range
Director of the Division of Local Health Administration	$6,900–$8,400
Director of Division of Tuberculosis Control	6,000– 7,200
Director of Venereal Disease Control	6,000– 7,200
Epidemiologist	6,000– 7,200
Local Health Officer II	6,000– 7,200
Local Health Officer III	5,100– 6,300
Industrial Hygiene Engineer I	3,900– 4,800
Industrial Hygiene Engineer II	3,300– 4,200

Write to: Division of Personnel
Kansas State Board of Health
Topeka, Kansas

POSITIONS WANTED

Public Health Administrator, M.D., Dr.P.H. Twelve years' experience in teaching of public health and preventive medicine in various medical schools. Experience as director of school health in a public school system. Eight years' experience in official and voluntary agencies and armed forces. Middlewest preferred. Currently employed, but seeking challenging position. Write **Box C-2,** Employment Service, A.P.H.A.

Dentist—Thirty years' experience in clinical and 5 years' experience in public health hospital administrative work. Interested in dental opening (South and Southwest preferred) with or without clinical responsibilities. Write: **Box D-2,** Employment Service, A.P.H.A.

Public Health Administrator: ten years' public health experience, six of which were spent in charge of health departments with up to a third of a million population. M.D., M.P.H., Fellow Health Officers Section. Available for responsible Public Health, Medical Care, or Medical Administrative position. Willing to start at $12,000 per year, provided there is a reasonable opportunity for increase. Write: **Box C-4,** Employment Service, A.P.H.A.

Public Health Physician seeks position in medical care, mental hygiene program or as health officer in or outside U. S. M.P.H., Harvard University, major medical care and public health practice. Some administrative experience in city

health department. National Board Diplomate. Negro, married, 27. Write Box Ph-7, Employment Service, A.P.H.A.

Health Educator, woman, M.S. Considerable experience in executive capacity in voluntary agencies, in community organization and group work with adults, school-agers and preparation of material. Interested in health education, teaching or administrative position. Write: **Box HE-6,** Employment Service, A.P.H.A.

Executive or Associate Position, health or welfare field. M.S.S., 12 years' experience (case work, supervisory, administrative) public and semi-private welfare, health, hospital and community organization agencies. Male. Write: **Box C-3,** Employment Service, A.P.H.A.

LABORATORY COURSES AT THE COMMUNICABLE DISEASE CENTER

The Communicable Disease Center, U. S. Public Health Service, Atlanta, Ga., announces the following laboratory courses for the remainder of 1948:

Laboratory Diagnosis of Tuberculosis. Four weeks. From November 15 to December 10, 1948. A practical laboratory training course for laboratory employees.

Laboratory Diagnosis of Tuberculosis. Two weeks. From October 4 to 15, 1948. Open to laboratory directors and other laboratory supervisory personnel.

Laboratory Diagnosis of Parisitic Diseases. Six weeks. From October 11 to November 19, 1948. Open to all laboratory personnel.

There is no tuition or laboratory fee involved. Travel and living expenses must be paid for by the individual or his employer. Applications or inquiries should be sent to Seward E. Miller, Senior Surgeon.

HARVARD BROADENS TEACHING PROGRAMS IN CANCER CONTROL AND MENTAL HYGIENE

The Department of Public Health Practice of the Harvard School of Public Health will expand its teaching and research programs in Cancer Control and in the public health aspects of Mental Health for the academic year beginning September, 1948.

The objectives of the new Cancer Control program will be administrative, epidemiological and statistical research in cancer, and the training of cancer control administrators for official and voluntary agencies. Students in the Cancer curriculum may specialize in the administrative, epidemiological, health education, or statistical aspects of the problem. These students will receive both basic public health training and specialized cancer teaching under the direction of the Cancer Control staff of the Harvard School of Public Health in cooperation with Boston hospitals and agencies. The staff will consist of a director-epidemiologist, health educator, secretary, technical assistant, clinical instructors, health department personnel, and a biometrician. The project is financed jointly by a $40,000 grant from the U. S. Public Health Service and a $6,900 grant from the Massachusetts Division, American Cancer Society.

The broadened teaching program in the preventive aspects of mental hygiene has been made possible by the Grant Foundation, which has given $230,000 for this purpose and for a five year investigation of certain problems of community mental health. The first community service center and research unit under the project will be established in Wellesley, Mass., in October, 1948. Groups participating in the Community Mental Health program are the Department of Social Relations of Harvard University, the Harvard Medical School, the Massachusetts General Hospital, the Wellesley Community Mental Health Committee, and the Harvard School of Public Health. The Mental Health staff will be composed of a director-psychiatrist, an assistant director, a service team, a research team, clinical psychologists, and technical assistants.

Advertisement

Opportunities Available

WANTED—(a) Public health physician for field position with one of the national health agencies; considerable traveling; $8,000–$10,000; headquarters in eastern city. (b) Assistant director of public health; southern city of over 200,000; 150 employees. (c) Student health physician; coeducational college, well equipped offices; ample assistance; California. (d) Chief for bureau of school medical inspection and, also, chief of epidemiology; city health department; East. (e) Physician to direct student health department; approximately 9,000 on campus; excellent facilities; unusual opportunity for developing program. (f) Deputy health officer; duties in health administration with emphasis on epidemiology; city of 340,000; minimum, $7,000. PH9-1. Medical Bureau (Burneice Larson, Director), Palmolive Building, Chicago 11.

WANTED—(a) Dentist qualified in public health dentistry or children's dentistry; administrative position; voluntary health agency having children's dental clinics in various parts of city and suburbs; East. (b) California licensed dentist for school position; should be well qualified in field of preventive public health and children's dentistry; full-time; minimum $4,800, professional expenses. (c) Dental consultant; division of maternal and child health, state department of health; training in child dentistry required; should have ability to develop dental health program for children; $375–$475, expenses. PH9-2 Medical Bureau (Burneice Larson, Director). Palmolive Building, Chicago 11.

WANTED—(a) Health educator; duties consist of working with all types of organized groups, promoting school health education; university medical centers; New England. (b) Sanitary engineer; state department of health; $4,500–$4,800, including traveling expenses. (c) Vital statistician, to supervise and maintain system of registration; degree with graduate training in public health or statistics required; state department of health; West; $5,100. (d) Bacteriologist with public health laboratory experience; state department of health; salary open to discussion; Middle West. (e) Superintendent of sanitation; city health department; 150 employees; Southern city, 200,000; $4,080–$4,896. (f) Graduate engineer with major in sanitary or public health engineering; to join staff of large industrial company having operations in Latin America; duties consist of directing sanitary program in two or three districts; work of non-routine nature. (g) Health educator to join staff of department serving town of 25,000; Pacific Northwest. PH9-3 Medical Bureau (Burneice Larson, Director) Palmolive Building, Chicago 11.

WANTED—(a) Public health nurse for supervisory position; generalized program, county health department; five-day week; $290–348 including travel expenses; California. (b) Assistant professor in public health nursing; state teachers college; duties involve teaching senior students in school nurse-teacher education; Bachelor's degree required, Master's degree preferred; should have major in public health nursing; experience as school nurse desirable; $4,275 for 10 month year; yearly increments of $200. (c) Supervisory nurses for rural health department and, also, district field nursing consultants; large city having several colleges and university; salary for staff nurses, $2,960–$3,318, for consultants, $3,670. (d) Public health nurse for teaching position with voluntary health agency offering bedside nursing care and family health service to large city and surrounding area; East; $3,900–$4,200. (e) Public health nurse for position as field representative, voluntary health association; duties include public relations, editing publications, health education; winter resort town; South. PH9-4 Medical Bureau (Burneice Larson, Director), Palmolive Building, Chicago 11.

Advertisement

Opportunities Wanted

Public health physician seeks directorship; medical degree, eastern university; M.P.H. Johns Hopkins; 17 years' experience in public health field; during war held important assignment abroad; now director of health; city of 100,000; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Dentist experienced in public health work; D.D.S. eastern school; several years' successful private practice; eight years in charge of dental division, county health department; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Sanitary Engineer is available; B.S. in bacteriology; twelve years, sanitary engineer, large industrial company; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Young public health man is available; M.S.P.H. (major in health education) Yale; eight years, professor of health education and health educator, small college; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Public health nurse; Master's degree, major in public health supervision; six years, staff nursing, rural and city health departments; six years, supervisor, municipal department of health; seeks administrative position in education, tuberculosis, or public health nursing; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

NEWS FROM THE FIELD

DR. CHISHOLM DIRECTOR OF WHO

At the first session of the World Health Assembly held in Geneva, June 24–July 24, Brock Chisholm, M.D., was elected Director General of the World Health Organization. Dr. Chisholm has been Director of the Interim Commission which has carried on world health activities until the charter was ratified and the first organization meeting held. A Canadian and a psychiatrist, he has indicated in a number of addresses his interest in physical and mental health as a means to world peace.

At the first session of the Assembly, Dr. Andrija Stampar of Yugoslavia, who had served as Chairman of the Interim Commission, was elected President of the Assembly by acclamation. Sir Aly Tewfik Shousha, Pasha, of Egypt was elected Chairman of the Executive Committee.

As of July 15, the membership of WHO numbered 68 countries, 11 of which are not yet members of the United Nations. The United States House of Representatives voted ratification of the WHO Constitution just in time for this country to be represented at the first World Health Assembly. In spite of its addition of a one year withdrawal clause, the Assembly voted to accept the ratification of the United States. Thomas Parran, M.D., former Surgeon General of the U. S. Public Health Service, who headed the 33 member delegation of the United States, assured the delegates that his country "stands solidly behind the World Health Organization and its objectives."

Among the matters agreed upon in the Assembly were the declaration of principle that WHO should in no way interfere in local affairs but confine itself to strengthening national health administrations in their efforts to deal effectively with the problems that faced them. Priority was granted to four programs for 1949, combating malaria, tuberculosis, and venereal disease on a global scale, and the improvement of maternal and child health. With respect to malaria, it was proposed that governments offer free therapeutic and prophylactic treatment; for tuberculosis the use of BCG vaccine was recommended and the establishment of an expert BCG panel. The United States and Mexico proposed an expert committee to combat water-borne and milk-borne diseases; an international study of cancer and other diseases was also proposed. A preliminary report on WHO's survey of the world's insulin supply was made, including the hopeful aspect due to the Lindner method of preserving the pancreatic glands of slaughtered animals, from which insulin is made. WHO is publishing this method in full.

Establishment of a world influenza center in the London National Institute for Medical Research was recommended, as were international centers in other areas for the study of brucellosis and schistosomiasis. The question of establishing a WHO medical supply bureau will also be studied for report to the next meeting of the Assembly.

Geneva was unanimously selected as WHO permanent headquarters, and regional offices were recommended for the Eastern Mediterranean, Western Pacific, Southeast Asia, Europe, and Africa, with negotiations in process to integrate the Pan American Sanitary Bureau with WHO as the regional office of the Americas.

The United States delegation included the following:

Delegates:

Thomas Parran, M.D., Medical Director, U. S. Public Health Service

Martha M. Eliot, M.D., Associate Chief, U. S. Children's Bureau

James R. Miller, M.D., Trustee, American Medical Association

Alternates:

F. P. Corrigan, M.D., Political Adviser on Latin America, United States Mission to the United Nations

James A. Doull, M.D., Chief, Office of International Health Relations, U. S. Public Health Service

Wilton L. Halverson, M.D., California State Director of Public Health

H. van Zile Hyde, M.D., Division of International Labor, Social and Health Affairs, Department of State

Advisers:

H. B. Calderwood, Division of United Nations Economic and Social Affairs, Department of State

N. H. Cruikshank, Director, Social Insurance Activities, American Federation of Labor

A. W. Dent, President, Dillard University, New Orleans

Morton Kramer, Chief, Research and Information, Office of International Health Relations, U. S. Public Health Service

Mrs. D. M. Levy, President, Citizens Committee on Children of New York City

James E. Perkins, M.D., Managing Director, National Tuberculosis Association

Lucille Petry, Director, Division of Nursing, U. S. Public Health Service

A. Roseman, Deputy Director, International Activities Branch, Bureau of the Budget

P. F. Russell, M.D., Malariologist, The Rockefeller Institute

D. V. Sandifer, Deputy Director, Office of United Nations Affairs, Department of State

James S. Simmons, Brig. Gen., M.C., U. S. Army (Ret.), Dean, School of Public Health, Harvard University

John Tomlinson, Assistant Chief, Division of United Nations, Economic and Social Affairs, Department of State

Tom F. Whayne, Colonel, M.C., U. S. Army, Chief, Preventive Medicine Division, Office of the Surgeon General

Abel Wolman, Dr.Eng., Professor, Sanitary Engineering, Johns Hopkins School of Public Health and Hygiene

Executive Secretary

W. H. Dodderidge, Division of Internal Conference, Department of State

Among the Canadian delegation was G. F. Amyot, M.D., Provincial Health Officer of British Columbia.

AMERICAN BOARD OF PREVENTIVE MEDICINE AND PUBLIC HEALTH INCORPORATED

Culminating a plan that has been long discussed in the councils of the American Public Health Association's Committee on Professional Education and in the councils of the American Medical Association and related groups, the first meeting of the American Board of Preventive Medicine and Public Health, Inc., was held in New York City on July 14. This meeting represented the 3 incorporators of the Board, all of whom were present, namely, Ernest L. Stebbins, M.D., Robert H. Riley, M.D., and Reginald M. Atwater, M.D. Action approving the incorporation had been taken in early May through a meeting in Washington attended by the representatives of the American Medical Association, the American Public Health Association, and other interested persons.

The American Board of Preventive Medicine and Public Health has been incorporated under the laws of the State of Delaware. The incorporators organized with the appointment of Dr. Atwater as Chairman of the meeting and Dr. Stebbins as Secretary. The permanent officers of the Board will be chosen at the first official meeting of the Board of Directors which is expected to be held in September.

It was reported that the certificate of incorporation had been filed in the office of the Secretary of State of the State of Delaware on June 29, 1948, and that certified copies had been recorded as required.

Dr. Stebbins as Secretary presented

to the meeting a form of proposed by-laws for the regulation of the activities and affairs of the corporation, which had been prepared and approved by the meeting of the representatives in May. These by-laws were duly submitted and adopted as the by-laws of the corporation. The by-laws provide that the members of the corporation are to be appointed by the American Medical Association and the American Public Health Association (3 members each), and by the Association of Schools of Public Health, the Southern Medical Association, and the Canadian Public Health Association (1 member each), a total of 9 members. It is provided further that one-third of the initial members of the corporation shall hold membership for a term ending at the first annual meeting of members of the corporation, one-third for a term ending one year thereafter, and one-third for a term ending 2 years thereafter. The incorporators proceeded with the 9 nominees and chose by lot the names to serve for 1, 2, and 3 years respectively. The vote resulted in the election of the following persons as trustees of the corporation for the terms indicated.

For a 1-year term:

Dr. J. H. Baille (C.P.H.A.), Toronto
Dr. F. C. Beelman (A.M.A.), Topeka, Kans.
Dr. Richard F. Boyd (A.P.H.A.), Washington, D. C.

For a 2-year term:

Dr. Ernest L. Stebbins (A.M.A.), Baltimore, Md.
Dr. Felix J. Underwood (S.M.A.), Jackson, Miss.
Dr. V. A. Van Volkenburgh (A.P.H.A.), Albany, N. Y.

For a 3-year term:

Dr. Walter L. Bierring (A.M.A.), Des Moines, Iowa
Dr. William P. Shepard (A.P.H.A.), San Francisco, Calif.
Dr. James S. Simmons, (A.S.P.H.), Boston, Mass.

The incorporators directed that announcements of the meeting as held should make clear that the Board was not yet organized to receive applications for certification of candidates, but that steps were being taken to develop an application form and an examination procedure. Announcement will be made through the columns of the *American Journal of Public Health* and other channels when the Board is ready to receive applications, and instructions will be published regarding the method of submitting applications. In the meantime, the process of having the American Board of Preventive Medicine and Public Health, Inc., approved by the Advisory Council on Medical Specialties will be continued in order that diplomates of this Board, all of whom must be physicians, shall have standing comparable with the 16 other recognized specialty boards in the United States.

N.A.S. MEETS

The National Association of Sanitarians held its 12th annual meeting at Portland, Ore., July 7–9, 1948.

A progress report of the association's growth disclosed that 4 new sections were added representing Florida, Kansas, North Carolina, and North Dakota.

Officers elected and installed for the ensuing year were:

President—C. W. Clark, R.S., Portland, Ore.
Vice-President—Ed. McLarky, Sr., R.S., Los Angeles, Calif.
Treasurer—C. H. Zieler, R.S., Los Angeles, Calif.
Directors—Graves J. Grant, R.S., New Orleans, La.; Charles W. Ashbaugh, R.S., Kansas City, Mo.; Edwin A. Watkins, R.S., San Diego, Calif.
Board of Examiners—Clifford J. Baughman, R.S., Bakersfield, Calif.
Exec. Secretary—Roscoe C. Davis, R.S., Los Angeles, Calif.

The 13th annual meeting will be held in Los Angeles in 1949.

SHELLFISH BACTERIOLOGY LABORATORY

The U. S. Public Health Service has established a laboratory for studies of shellfish bacteriology at the Oceanographic Institution in Woods Hole,

Mass. One of its first projects will be a comparative study of various organisms such as coliform bacteria that have been used as indicators of sewage pollution of shellfish and shellfish growing waters. The Service, since 1925, in response to the request of the shellfish industry, has recommended minimum requirements for shellfish sanitation and has prepared a code of recommended practices that are the basis of legal regulations adopted by shellfish producing states.

MORE JOINT ACTIVITY IN WEST VIRGINIA

The Eastern Panhandle Cooperative Health Unit of West Virginia was recently established by Berkeley, Jefferson, and Morgan Counties with a combined 1940 population of about 60,000. Headquarters are in Martinsburg, and due to personnel shortages a temporary part-time health officer, G. P. Morison, M.D., has been named. Previous to this consolidation only Berkeley County was organized, Morgan County being served by a state health district, and Jefferson County having nursing service and a part-time health officer.

Cabell County and the City of Huntington are in process of organizing a city-county health department on approval of the County Court and the City Council. The *West Virginia Monthly News Letter* reports that the County Court's approval comes after 22 years of work.

Wood County and the City of Parkersburg, which already have joint health services, are organizing an official city-county health department with a single board of health.

WHO UP TO DATE

The May (Vol. 2, No. 5) *Chronicle of the World Health Organization* contains a general review of the work of the Interim Commission—the machinery of the Commission, the assimilation of existing international health activities, work on such special problems as quarantine conventions, biological standardization, control of narcotics, malaria, tuberculosis, and venereal diseases, children's emergency fund, the Egyptian cholera epidemic, are all briefly reviewed. Available from World Health Organization, 350 Fifth Ave., New York, N. Y.

TYPHUS MENACE REDUCED IN GEORGIA

The State Department of Public Health carried on DDT dusting and rat eradication activities in 76 Georgia counties in 1947, with the result that in 5 of the most densely populated counties, comprising one-fourth of the state's population, the number of typhus cases decreased 57 per cent over 1946 and 92 per cent over 1945, when DDT dusting was begun. From a total of 1,111 cases of typhus reported in 1945, the number dropped to 436 in 1947, a decline of 61 per cent for the state as a whole. In 1947, DDT dusting was extended to include farm residences and outbuildings. More than 182,787 premises were dusted, nearly 35,000 more than in 1946. Poison bait was also used in some areas. Ratproofing buildings, refuse collecting, and sanitary land-fills were also employed in the campaign to reduce typhus.

METROPOLITAN CAMPAIGN TO REDUCE CHILDREN'S ACCIDENTS

Reducing the number of children's accidents is the objective of an intensive campaign now being launched by the Metropolitan Life Insurance Company with the coöperation of the U. S. Children's Bureau, the American Academy of Pediatrics, and the National Safety Council. Accidents are the leading cause of death among children of more than 1 year of age, with death rates per 100,000 population far surpassing those of any other cause. The program is planned to encourage public health, medical, safety organizations, and the

public to give greater attention to child safety. A 12 page booklet, *Help Your Child to Safety,* addressed to parents, emphasizes ways of combating physical hazards and unsafe practices resulting in injuries to children. The booklet and other source material is available from the company on request for use in local organized child safety programs. One Madison Avenue, New York, N. Y.

BEN MILLER NEW YOUTH HOSTELS' EXECUTIVE

Early in September Ben W. Miller assumed his duties as Executive Vice-President of American Youth Hostels, a newly created office which is planned to relieve the General Director, Monroe Smith, of other administrative duties to devote increasing attention to the development of the Youth Hostel program, particularly its international aspect. During the current summer more than 400 young people traveled to Europe under the auspices of American Youth Hostels, which has organizations in 24 countries.

Mr. Miller was formerly Secretary of the American Association for Health, Physical Education and Recreation.

TWO NEW SERVICES IN OHIO STATE HEALTH DEPARTMENT

In a recent reorganization a Bureau of Direct Services was created in the Ohio State Health Department. Under the direction of Paul Q. Peterson, M.D., this bureau is made up of the sanitary engineering, laboratory, vital statistics, industrial hygiene, and hospital divisions. Dr. Peterson will also be responsible for the department's public health training program.

In the Bureau of Local Services, a cancer division has been created with Walter B. Lacock, M.D., as Director.

"ACTION FOR SAFETY" A NEW ARRIVAL

In July, the National Commission on Safety Education of the National Education Association (1201 16th St., N.W., Washington 6, D. C.), began publication of *Action for Safety,* a monthly newsletter. Its purpose is to give information about the activities of the Commission and significant developments in safety education. Presumably available for the asking.

BALTIMORE JOINS THE MARYLAND MEDICAL CARE PROGRAM

In June, Baltimore's Mayor, Health and Welfare Commissioners, Johns Hopkins Hospital, and the University of Maryland Medical School, concluded arrangements for providing medical care clinic services for public assistance clients of the City Welfare Department. Thus Baltimore was brought into the state-wide medical care program for Maryland, in accordance with the recommendations of the Special Study Committee on Medical Care Needs of Baltimore City made early in 1947.

CALIFORNIA SURVEY OF CHRONICALLY ILL

By act of the 1947 state legislature, the California State Department of Health has a plan for an extensive investigation of the "problems involved in the reduction of deaths and disability from cancer and other chronic diseases." The outline of the plan was approved by the State Board of Public Health in November, 1947, and an advisory committee which was appointed at that time has held its initial meeting. Recommendations and estimated program costs for the survey will be placed before the legislature in 1949.

FIRST GRANTS FOR RESEARCH IN HUMAN REPRODUCTION

The February *Journal* (p. 311) reported on the program of research in human reproduction to be undertaken by the National Committee on Maternal Health. In July announcement was made of the first research grants in this program—5 grants totaling $21,918—

for basic research seeking to throw light on factors governing fertility control and problems of infertility.

The 5 studies will be carried on at the University of Illinois, The Johns Hopkins University, Michael Reese Hospital (Chicago), the Worcester Foundation for Experimental Biology (Shrewsbury, Mass.), and the University of Witwatersrand, Johannesburg, South Africa. The grants were recommended by the National Research Council's Committee on Human Reproduction which is coöperating with the National Committee on Maternal Health in this program.

THE STATE OF CHILD HEALTH SERVICES

The first reports of the nation-wide study of Child Health Services, which the American Academy of Pediatrics has had in progress for three years under the direction of John P. Hubbard, M.D., have been published. Three are now available, of which two concern North Carolina, the pilot state for the study.

Child Health Services in North Carolina was originally published as a supplement to the *North Carolina Medical Journal* and is now available in reprints. It gives the background of the national study as well as a detailed account of the existing child care situation in the state. It finds North Carolina children at a disadvantage as to medical care in relation to those of other states and children in isolated rural areas at a disadvantage in relation to those near cities.

How Well Does North Carolina Provide for the Health of Its Children is the brief and graphic presentation of the same material geared to general public health education needs.

The third report currently published is *Health Services for the Rural Child* by Dr. Hubbard and others, and originally presented at the National Conference on Rural Health of the American Medical Association in February, 1948, and first published in the *Journal of the American Medical Association*. This has extensive tabular material on hospitals, physicians, and dentists by states and counties.

Each report is available from the American Academy of Pediatrics, Study of Child Health Services, 2346 Massachusetts Ave., N.W., Washington 8, D. C., the second mentioned at $1, the others presumably without charge.

BRITISH MEDICAL ASSOCIATION DECIDES TO COÖPERATE IN THE NATIONAL HEALTH SERVICE ACT

The British Information Services, in June, reported that "the last major obstacle to putting into effect the National Health Service, which provides all citizens who wish to use it with medical care, irrespective of their income was removed when on May 5, as a result of a plebiscite among its members, the British Medical Association decided that the profession would not refuse to coöperate in carrying out the National Health Service Act which went into operation on July 5."

Certain misgivings of the profession had led the British Association to advise its members to refuse to enter the scheme. This deadlock was broken when the Minister of Health gave assurance on the following points:

1. Full-time salaried service, which the profession opposes, would not be instituted without further legislation.
2. Every doctor in the Service would be completely free to publish his views on the organization and administration of the Service.
3. The Medical Practices Committee, which has power to schedule areas as over-doctored and prevent entrants into the public service in these areas, will review areas so scheduled after two years.

NEW OFFICERS OF NATIONAL NURSING AGENCIES

At the Biennial Nursing Convention of the American Nurse's Association, the National Organization for Public Health Nursing, and the National League for

Nursing Education in Chicago in June, the following officers for the three organizations were elected:

AMERICAN NURSES ASSOCIATION

President—Pearl McIver, R.N., Chief, Office of Public Health Nursing, U. S. Public Health Service

1st Vice-President—Janet M. Geister, R.N., Organization Consultant, Chicago

2nd Vice-President—Mrs. Bethel J. McGrath, R.N., Powers Dry Goods Co., Minneapolis

Secretary—Mrs. Linnie Laird, R.N., Executive Secretary, Oregon State Nurses' Association

Treasurer—Lucy Germain, R.N., Director of Nurses, Harper Hospital, Detroit

NATIONAL ORGANIZATION FOR PUBLIC HEALTH NURSING

President—Ruth W. Hubbard, R.N., General Director, Visiting Nurse Society of Philadelphia

1st Vice-President—Ruth B. Freeman, R.N., Administrator of Nursing Services, American National Red Cross

2nd Vice-President—Mrs. Carl B. Grawn, Board Member, Visiting Nurse Association of Detroit

Treasurer—L. Meredith Maxson, Vice-President, First Boston Corporation, New York

Secretary—Anna Fillmore, R.N., General Director, National Organization for Public Health Nursing

NATIONAL LEAGUE OF NURSING EDUCATION

President—Agnes Gelinas, R.N., Chairman, Department of Nursing, Skidmore College

Vice-President—Mrs. Hazelle B. Macquin, R.N., Dean, School of Nursing, University of Utah

Secretary—Mrs. Henrietta A. Loughran, R.N., Director, School of Nursing, University of Colorado

Treasurer—Henrietta Doltz, R.N., Department of Nursing, University of Oregon Medical School

PROPOSAL TO CONTINUE NATIONAL HEALTH ASSEMBLY

Three proposals to carry out the recommendations of the National Health Assembly, held in May, were made by its Executive Committee, meeting late in June:

1. That the Assembly's Executive Committee continue as an advisory and coördinating group;
2. That the Federal Security Administrator appoint a small working subcommittee to recommend to the full committee plans on public education relating to health, and on continuing organization and financing;
3. That each state be urged to hold a health assembly, patterned after the National Assembly, and giving equal representation to professional and "consumers'" groups in order to stimulate the widest possible cooperation among all concerned in health; that these state conferences, in turn, stimulate local conferences along the same lines to develop essential local planning and operation of health services.

As a means of exploring practical methods of carrying out the Health Assembly's recommendations, the Federal Security Administrator, Oscar R. Ewing, has asked the subcommittee to consider:

Publication of the final recommendations of the 14 Sections constituting the National Health Assembly;

Exploring methods for follow-up of recommendations made by the Sections of the National Health Assembly—wherever possible, such follow-up should be carried on by organizations already specializing in these fields of activity;

Development of plans and guidance for state and local health assemblies.

HONORARY DEGREE TO DR. ELIOT

Martha M. Eliot, M.D., President of the A.P.H.A. and Associate Chief of the U. S. Children's Bureau received the honorary degree, Doctor of Humane Letters, at the Commencement exercises on June 21, of the University of Rochester. In presenting Dr. Eliot for the degree, Janet Clark, Professor of Biophysics and Dean of the College for Women of the College of Arts and Sciences, said:

When we contemplate the slow progress that the world is making towards political unity we are often discouraged. It is with particular thankfulness that we turn to fields in which notable progress has been made towards bettering the conditions of the human race. Nothing is more inspiring than the great strides made in the last fifty years in the field of public health. The men and women who have devoted their lives to controlling disease have fought a battle for the conservation of human lives and resources, not their destruction. The contribution they make often

combines the best use of medical knowledge and the best attack on sociological problems. This is particularly true of the distinguished career of Dr. Martha May Eliot.

Dr. Eliot is a member of a most distinguished family that has consistently made its contribution to the public welfare. She graduated from Radcliffe and received her medical degree from The Johns Hopkins School of Medicine. She then made a noteworthy study on rickets for the U. S. Children's Bureau and shortly became a member of the Bureau's staff. Since 1941 she has been associate chief of the Bureau and in 1947 was on the staff of the International Children's Emergency Fund Committee of the United Nations. As a member of this committee she made two trips to Europe in the interest of child health. To the medical profession and to the sociologist she is particularly known as the author of the Emergency Maternal and Infant Care program.

This year she was elected the first woman president of the American Public Health Association in recognition of her leadership in the public health field, particularly in maternal and infant care.

For her outstanding contributions to that very vital area of public health, which are admired by the medical profession, by the sociologists and by all humane and thoughtful people, I present her to you for the degree Doctor of Humane Letters, *honoris causa*.

President Allan Valentine, in conferring the degree, said:

Major contributor to the health of countless children, respected national leader of men in public health, you have personally united for human welfare those coy and nervous allies the physician and the sociologist, thus turning the past impossible into the future inevitable.

GRANGE RESOLUTION ON LOCAL HEALTH UNITS

The National Grange at its 81st annual meeting in Columbus, Ohio, in November, 1947, adopted the following resolution presented by its Interim Committee on Health:

Whereas:

1. A third of the population of the United States, particularly in rural areas, is without an organized local health department directed by a full-time health officer.

2. Twenty thousand of 38,000 different local governmental jurisdictions and 70,000 of 108,000 school districts are each attempting to operate their own health services.

3. Such small units of government cannot expect to have enough tax money to attract the necessary trained workers to carry out a public health service to which the people are entitled:

Therefore, Be It Resolved, that we favor:

1. The enactment of state laws authorizing the creation of county-wide, city-county, or multi-county units of health jurisdiction.

2. The employment of professionally qualified full-time health officers at appropriate salaries.

3. Requirements by law that health departments carry on certain essential standard activities.

This is one of a number of similar resolutions adopted by other agencies that took part in the Princeton Conference on Local Health Units. The Grange's Interim Committee on Health, of which Joseph W. Fichter, Ohio State Master is the Chairman, and Lloyd W. Halvorson, Grange Economist is Secretary, in June began a series of letters to state Grange officials, particularly health chairmen. The first letter pointed out that 40,000,000 persons are without the services of a full-time local health officer and urged Grange support of the local health unit's program adopted by the Princeton Conference and of federal and state legislation to assist local areas whose own resources are inadequate for maintaining their own health even after combining units of government to form a jurisdiction of at least 50,000 persons.

STANDARDIZED ANTIGENS

Arrangements have been made for the New York City Department of Health to furnish standardized Venereal Disease Research Laboratory cardiolipin—lecithin antigen—Mazzini and Kolmer antigens to the 20 serologic laboratories of the Department of Hospitals. Technicians from the laboratories of the Department of Hospitals will be trained in the use of these antigens in the laboratories of the Department of Health.

N.O.P.H.N. RESOLUTION ON LOCAL PUBLIC HEALTH SERVICES

The following Resolution was passed

by the National Organization for Public Health Nursing at its closing business session on June 4, 1948, during the Biennial Nursing Convention in Chicago:

WHEREAS, the people of the United States are not at present receiving adequate public health care, and

WHEREAS legislation has been introduced in the Congress of the United States to permit federal assistance to states in the development of local public health services, passage of which would improve and extend the nursing care available to the people of the United States, be it therefore

RESOLVED that the N.O.P.H.N. approve the principle of legislation to provide aid to states in the development of local public health services and urge members to support aggressively such legislation as is presently proposed or may be subsequently introduced to achieve this end, and to interpret to other civic groups the import of such legislation and the urgency for public action in support of it.

NEW YORK STATE HOLDS ANNUAL HEALTH CONFERENCE

The 44th Annual Health Conference under the auspices of the New York State Department of Health was held in Saratoga Springs July 21–23. More than 1,000 health officers, public health nurses, and engineers were in attendance.

Among the out of state speakers were Dr. Leonard A. Scheele, Surgeon General, U. S. Public Health Service, Washington; Dr. Austin M. Brues of the Argonne National Laboratory, Chicago, Ill.; Dr. William Roemmich, Minneapolis, Minn.; Dr. Frederick J. Stare, Harvard School of Public Health, Boston; Dr. W. H. Sebrell, National Institute of Health, Bethesda, Md.; Dr. Vlado A. Getting, Commissioner of Public Health, State of Massachusetts, Boston, and Dr. Ernest L. Stebbins, School of Hygiene and Public Health, Johns Hopkins University, Baltimore.

A new mobile X-ray truck was delivered to the State Department of Health during the conference and keys to the unit were presented to Dr. Herman E. Hilleboe, who said that the truck was provided in order that services may be brought to people where the people cannot be brought to the services. The unit was put into operation in making photofluorographs of the chest of those in attendance at the conference.

NEW YORK STATE TO BUILD VIRUS LABORATORY

The New York State Department of Health at Albany announced on July 20 that construction would begin immediately of a new virus laboratory as an addition to the present laboratory on New Scotland Avenue, Albany. Dr. Herman E. Hilleboe, State Commissioner of Health, said that facilities would be provided for the Department's research program in virus diseases and other activities.

DR. VAN HEUVELEN BECOMES SUPERINTENDENT OF HEALTH IN SOUTH DAKOTA

The appointment of Gerald John Van Heuvelen, M.D., as Superintendent of Health in South Dakota, effective July 1, was recently announced. Dr. Van Heuvelen succeeds Gilbert Cottma, M.D., who has retired.

Dr. Van Heuvelen is a graduate in medicine of Rush Medical College in 1932, and is a diplomate of the National Board of Medical Examiners in the same year. He has for some time limited his practice to public health and has served as Assistant Superintendent and Epidemiologist in the South Dakota State Department of Health.

KATHARINE LENROOT RECEIVES UNIVERSITY HONORS

Katharine Lenroot, Washington, Chief of the U. S. Children's Bureau, received on June 2, the degree of Doctor of Laws from Tulane University, New Orleans, at the Annual Commencement. The citation reads:

One of the outstanding women in American public life, Miss Lenroot is known throughout the world for her distinguished work in be-

half of children in this country and abroad. Active for more than three decades with the United States Children's Bureau, and its Chief since 1934, she has contributed immeasurably toward the Bureau's high standards of research and the development of its nonpartisan health and welfare services. A woman of rare courage and statesmanship, she has achieved noteworthy success in her chosen field.

Miss Lenroot also received the degree of Doctor of Humane Letters from Russell Sage College in Troy, N. Y., at the Thirty-first Commencement of the College on May 30.

SOUTHERN BRANCH, A.P.H.A., ANNOUNCES 1949 MEETING

George A. Denison, M.D., Secretary-Treasurer of the Southern Branch, A.P.H.A., who is Health Officer of the Jefferson County Board of Health, Birmingham, Ala., has announced on behalf of the Southern Branch that the 1949 Annual Meeting will be held April 14–16, inclusive, in Dallas, Tex., with headquarters at the Baker Hotel.

NORTHERN CALIFORNIA PUBLIC HEALTH ASSOCIATION MEETING

The Northern California Public Health Association held a dinner meeting on June 4 in Berkeley, at which the topic under discussion was "Shall Health Department Administration Be Combined with Public Hospital and Medical Administration."

Officers for 1948 have been reported as follows:

President—Harold F. Gray, Berkeley
President-Elect—C. Martin Mills, M.D., Richmond
Vice-President—Fannie T. Warncke, Oakland
Treasurer—Eugene M. Howell, Stockton
Secretary—L. Amy Darter, Berkeley
Representative on Regional Board, Western Branch, A.P.H.A.—Kenneth Haworth, M.D., Eureka

ARIZONA PUBLIC HEALTH ASSOCIATION

At its Annual Meeting held in Douglas, April 23–24, the Arizona Public Health Association elected new officers as follows:

President—Oscar V. Cooper, Phoenix
President-Elect—Marion Sprague, Phoenix
Vice-President — George W. Marx, C.E., Phoenix
Secretary—Helen Rotthaus, Phoenix
Treasurer—Mary Peterson, Phoenix

DENVER ORGANIZES ITS HEALTH AND HOSPITAL STRUCTURE

A Bureau of Health and Hospitals has been created in the Department of Health and Charity of the City and County of Denver, Colo. The function of this bureau will be to plan and administer the programs and services previously administered by the Department of Hospitals and the Department of Health of the City.

The creation of the new bureau coincides with the return of Dr. Lloyd Florio to his position as Professor of Public Health and Preventive Medicine at the University of Colorado School of Medicine. Dr. Florio has been on leave from the School of Medicine for the past year and was appointed Health Officer of the City and County of Denver to implement the programs outlined in a survey under the direction of Dr. E. G. McGavran completed in the early months of 1947.

The newly created bureau will have a single board which will exercise advisory and delegated functions over both the health and hospital programs. Dr. Florence R. Sabin will continue in her post as Manager of Health and Charity for the City and County of Denver. The Director of the new Bureau of Health will be Dr. James P. Dixon, who previously served in the capacity of Medical Director of the Denver General Hospital.

Dr. Dixon says that it is the intent not only to further administrative efficiency, but also to work out procedures whereby programs of preventive and curative medicine can be effectively coordinated and integrated.

PERSONALS

Central States

ROBERT BARR, M.D.,† hitherto Chief of the Section of Departmental Administration, and earlier Director of the Division of Local Health Services, has been made Chief of the Section of Special Services, Minnesota Department of Health. At the same time the Division of Local Health Services, headed by PERCY T. WATSON, M.D.,* has been transferred to the Section of Special Services. Dr. Barr succeeds VIKTOR O. WILSON, M.D.,* who became Rochester, Minn. Health Officer on May 15 and is in turn succeeded by J. W. BROWER† in the Section on Administration.

RUTH BISHOP has been appointed as Resident Lecturer in Public Health Nursing, School of Public Health, University of Michigan, Ann Arbor. Miss Bishop has had staff nurse, student instructor, and supervisor experience with the Visiting Nurse Association, Cleveland; the Hillsdale County and Wayne County Health Departments in Michigan; as well as 2 years in the Army Nurse Corps.

LEROY DAVENPORT, D.V.M.,† is the new consultant in Veterinary Medicine of the Division of Communicable Diseases, Illinois State Department of Health. He was formerly Assistant to the Superintendent of the Illinois Division of Livestock Industry.

FLOYD M. FELDMAN, M.D.,* has resigned as Health Officer of Rochester, Minn., to accept appointment as Medical Director in the U. S. Public Health Service where he has been placed in charge of the Central Coordination and Analysis Office, Tuberculosis Study Section, Washington, D. C.

VERNON G. MACKENZIE,† who recently returned from a 9 month assignment with the Public Health Section of the American Mission for Assistance to Greece, on July 1 became Officer in Charge of the Federal Security Agency's Water and Sanitation Investigations Station in Cincinnati. He succeeds HAROLD W. STREETER,† who retired after 34 years with the U. S. Public Health Service.

DONALDSON F. RAWLINGS, M.D.,† was appointed Chief, Division of Maternal and Child Health, Illinois Department of Public Health, effective July 6, to succeed RUTH DUNHAM, M.D.,† who resigned to accept a commission in the U. S. Public Health Service.

CHARLES F. SUTTON, M.D.,† has succeeded RICHARD F. BOYD, M.D.,* as Director of Local Health Administration, Illinois State Health Department, having previously served as Assistant Director.

VIKTOR O. WILSON, M.D.,* has resigned as Director of the Division of Child Hygiene, Minnesota State Department of Health, Minneapolis, to become Health Officer of Rochester, Minn., succeeding FLOYD M. FELDMAN, M.D.,* resigned.

Eastern States

LEVERETT D. BRISTOL, M.D., Dr.P.H.,* of Bethayres, Pa., has been appointed Chief of the Division of Cancer Control, Pennsylvania State Department of Health, Harrisburg. Dr. Bristol has recently served as Commissioner of Health and Welfare in the State of Maine and formerly was Director of Health, American Telephone and Telegraph Company.

JOHN E. FARRELL, Sc.D.,* Executive Secretary of the Rhode Island Medical Society, and of the Council of the New England State Medical Societies, was elected Secretary-Treasurer of the National Conference of Presidents and Other Officers of State Medical Associations at the 4th annual meeting of that group in Chicago in June.

DOUGLAS H. FRYER, M.D.,† of Phila-

delphia, Pa., accepted a position, beginning August 1, as Commissioner of Health, Columbia County, Hudson, N. Y.

F. C. LAWLER, Sc.D.,* formerly with the J. T. Baker Chemical Company, Phillipsburg, N. J., has recently been appointed Director of the Vermont Laboratory of Hygiene, Burlington, Vt.

JAMES L. MCCARTNEY, M.D.,† has been elected President of the Nassau Neuropsychiatric Society recently organized by the private practising neurologists and psychiatrists of Nassau County, New York.

HERBERT R. MORGAN, M.D., formerly Senior Fellow in Virus Diseases, National Research Council, at the Thorndike Memorial Laboratory of the Boston, Mass., City Hospital, has been appointed Associate Professor of Epidemiology, School of Public Health, and Assistant Professor of Internal Medicine, Medical School, University of Michigan, Ann Arbor.

E. R. NAILLARD, M.D., on July 1, was appointed Director of the new laboratory and research bureau of Nassau County, New York, Health Department.

BASIL O'CONNOR,† Chairman of the American National Red Cross, and President of the National Foundation for Infantile Paralysis, in May was awarded a gold medal of the National Institute of Social Sciences. Under his guidance, the Institute stated, the National Foundation "has achieved a high and permanent place in the land, offering new hope for stricken youth to face courageously a brighter future."

C. A. SARGENT, M.D.,† for many years District Health Officer of the New York State Department of Health, has been appointed Commissioner of Health of Syracuse, N. Y., succeeding H. BURTON DOUST, M.D.†

Southern States

BRIG. GEN. LEON A. FOX, M.C., U.S.A.,* was made an Honorary Commander of the Most Excellent Order of the British Empire on July 22. The award, presented by Sir Oliver Frank, the British Ambassador to the United States, was in recognition of General Fox's service and aid to the British Armies while serving as Field Director of the United States Typhus Commission.

BRUCE UNDERWOOD, M.D.,† was recently appointed Health Officer of Kentucky to succeed PHILIP E. BLACKERBY, SR., M.D.,† deceased. Dr. Underwood has had 6 years' experience as a local Health Officer in Kentucky and Florida and most recently has been in private practice in Morganfield, Ky.

Western States

JOHN D. FOUTS, M.D.,† is the Director of the newly formed Bellingham-Whatcom County, Washington, Health District. He recently completed the work for an M.P.H. degree at Columbia University. Previously, he was Health Officer of King County whose health services have been merged with those of Seattle.

WARREN F. FOX, M.D.,* formerly Health Officer of Riverside County, California, recently became Health Officer of the newly organized full-time health department of the City of San Bernardino.

GEORGE C. GIBSON, M.D., in July succeeded FRANK B. QUEEN, M.D., as Director of the Cancer Control Section, Oregon State Board of Health, Portland. Dr. Gibson recently completed a 2 years' surgical residency at the Pondville Cancer Hospital in Massachusetts.

W. PHILIP PHAIR, D.D.S., became Di-

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* Fellow A.P.H.A.
† Member A.P.H.A.

rector of Dental Health of the Washington State Health Department, Seattle, after receiving his M.P.H. degree at the University of Michigan.

MARGARET W. ROBINSON,† Research Assistant for the Research Foundation for Alcoholism, Seattle, Wash., has recently been appointed Executive Secretary of the Foundation.

Deaths

DONALD A. CAMPBELL, M.D.,† Neosho-Newton County Health Officer, Neosho, Mo., Elected Member 1943 (Health Officers Section).

O. R. GILLETTE, M.D.,* City Health Officer of Colorado Springs for 39 years, died in July at the age of 74. (Health Officers Section).

ROBERTS A. HEARN, M.D.,† Staff Physician, American Legion Hospital, Battle Creek, Mich. Elected Member 1943 (Industrial Hygiene Section).

A. W. JONES,* Secretary and Manager, Tuberculosis and Health Society, St. Louis, Mo. Elected Member 1925, Elected Fellow 1934 (Public Health Education Section).

CLEMENTINE J. PRIOR† of Yakima, Wash. Elected Member 1935 (Laboratory Section).

BENJAMIN B. ROBBINS, M.D.,† Health Officer, Bristol, Conn. Elected Member 1927 (Health Officers Section).

WILLIAM M. SILL, M.D.,† Superintendent of Public Health, Jamestown, N. Y. Elected Member 1926 (Health Officers Section).

C. H. WATSON,† Senior Sanitarian, Bannock County Health Unit, Pocatello, Idaho. Elected Member 1943 (Engineering Section).

STEPHEN E. WHITING,* Consulting Engineer of Swampscott, Mass. Elected Member 1935, Elected Fellow 1940 (Industrial Hygiene Section).

CONFERENCES AND DATES

American Association for the Advancement of Science. Centennial Meeting. Washington, D. C. September 13–17.

American Chemical Society. Three Sessions in Washington, D. C., St. Louis, Mo., and Portland, Ore. August 30–September 17.

American Congress of Physical Medicine, Hotel Statler. Washington, D. C. September 7–11.

American Dental Association. Chicago, Ill. Week of September 12.

American Dietetic Association. Boston, Mass. October 18–22.

American Hospital Association. 50th Anniversary Convention. Atlantic City, N. J. September 20–24.

American Occupational Therapy Association. Hotel Pennsylvania, New York, N. Y. September 7–11.

American Public Health Association—76th Annual Meeting. Boston, Mass. November 8–12.

American Public Welfare Association. Southwestern Region. Topeka, Kan. September 23–24.

American Public Works Association. Boston, Mass. October 17–20.

American Society of Planning Officials. New York, N. Y. October 11–13.

American Water Works Association:
- Iowa Section. Hotel Wahkonsa, Fort Dodge, Iowa. October 5–6.
- Ohio Section. Mansfield-Leland Hotel, Mansfield, Ohio. October 7–8.
- Michigan Section, Flint, Mich. September 22–24.
- New York Section, New York, N. Y. September 14–17.
- Rocky Mountain Section, Cheyenne, Wyo. September 16–17.
- Southwest Section. Buccaneer Hotel, Galveston, Tex. October 10–13.
- West Virginia Section, Clarksburg, W. Va. September 29–30.

Civil Service Assembly of the United States and Canada. Ottawa, Canada. October 4–7.

College Physical Education Association. 52nd Annual Convention. Hotel La Salle, Chicago, Ill. December 27–28.

Florida Public Health Association, Dixie Sherman Hotel. Panama City, Fla. October 7–9.

Indiana State Medical Association. Indianapolis, Ind. September 26–29.

Michigan Public Health Association. Grand Rapids. December 1–3.

National Association of Housing Officials. Seattle, Wash. October 13–16.

National Pest Control Association. Royal York Hotel, Toronto, Canada. October 18–20.

National Recreation Congress. Hotel Fontenelle. Omaha, Nebr. September 26–October 1.

National Safety Council. Stevens Hotel, Chicago, Ill. October 18–22.

National Technical Conference of the Illuminating Engineering Society. Hotel Statler, Boston, Mass. September 20–24.

New York State Association of Milk Sanitarians. Buffalo, N. Y. September 22–24.

Ninth International Congress of Industrial Health. London, England. September 13–17.

North Dakota Public Health Association. Minot, N. D. October 28–29.

Public Works Congress and Equipment Show of American Public Works Association. Boston, Mass. October 17–20.

Southern Branch, American Public Health Association. Baker Hotel, Dallas, Tex. April 14–16, 1949.

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